DRUG AND COSMETIC INDUSTRY

NOVEMBER 1938

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The Drug and Cosmetic Industry is published monthly by Drug Markets, Inc., Frazer V. Sinclair, President and Treasurer; Thomas R. Farrell, Vice-president and Secretary. Publication Address, 28 Renne Ave., Pittsfield, Mass. Editorial and General Office, 101 West 31st St., New York, N. Y.

Subscription price—$2.00 a year, in advance, Foreign Countries, $3.00. Single copies, 25c; Back issues 50c. Entered as Second Class Matter, January 1, 1928, at the Post Office at Pittsfield, Mass., under the Act of March 3, 1879.

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Printed by Sun Printing Co., Pittsfield, Mass.

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FOLLOW THE REGULATIONS

REGULATIONS for enforcement of the Federal Food, Drug, and Cosmetic Act as issued by the Food and Drug Administration are considered entirely too drastic in many respects by a large number of manufacturers. Modifications of these regulations might follow the hearing of November seventeenth, but there is no good reason to anticipate any major changes, or, in fact, any changes at all.

THE law gives the Secretary of Agriculture full power to promulgate whatever regulations he sees fit. The court appeal specified in the law applies only to a few sections in the law, and does not apply to any of the regulations now issued. Therefore, when these regulations are finally promulgated, they will have the full force and effect of law. The only way that any part of these regulations can be upset, after they have been promulgated, is for individual manufacturers to defend cases brought against them by the Food and Drug Administration. And then the regulation might still remain, merely being ineffective against the particular products on which the cases lost by the Department were brought.

FOR this reason the regulations are just as important as the law. And manufacturers who want to stay out of trouble will read them carefully and bring their products into full compliance with them. Doubtless, as time goes on, certain interpretations which the Food and Drug Administration gives to the law will not be sustained by the courts and some of the regulations promulgated by the Department will not stand up in specific cases. But this is too much to take for granted, and unless a manufacturer wants to find himself in court he might better follow the regulations as they are finally promulgated sometime after the public hearing.

NEW and NON-OFFICIAL

EVERYONE IS NOW CHATTERING ABOUT the Food, Drug and Cosmetic Act now that the regulations for enforcement has been issued in preliminary form. New orders for labels will have to be placed for practically every cosmetic on the market, and for a long list of drug products. If the heyday for the label manufacturers, and they will doubtless be rushed from now on until sometime after the new law fully goes into effect. Circulars included with most products will have to be rewritten to include information required under the new law. Most cartons will have to be changed to contain on the side of the carton usually displayed, the information required by the law to appear on the label. Scrapping of cartons and labels will be commonplace from now on.

The regulations will be promulgated in final form sometime before the first of the year, and then manufacturers must move as rapidly as possible to bring their labels and packages into conformity with the new law so that as few of their products in the old form as possible will not be in the hands of consumers by the effective date, June 25, 1939.

SO MANY PEOPLE WRITE AND CALL on the phone regarding label statements and names of cosmetics that can be used under the new law that it becomes a bit embarrassing to have to say so often that we really do not know what the FDA will accept. But this is the truth of the matter. We know many statements that the FDA or anybody else will not accept, but we cannot read the minds of the enforcement officials, especially when the enforcement officials themselves do not know.

After all, the FDA has never dealt with cosmetics before, and consequently they have a lot to learn. And manufacturers of cosmetics can rest assured that the FDA will not crack down on all sorts of claims at once. The old Food and Drugs Act was in effect for thirty years, and every year the FDA was discovering something entirely new to cite manufacturers for. It was only in 1937 that the FDA applied the old law against gauzes, bandages, cotton, and other surgical dressings. The FDA will move as rapidly as possible, but manufacturers should not all be expected to be hauled to court at once. Furthermore, it is quite likely that the FDA will not haul cosmetic manufacturers to court at all in ordinary misbranding cases. Perhaps they will issue a warning and then act only on a defiance of their request.

We all know that it is best to have everything in full accord with the new act to avoid trouble, and a manufacturer can save himself a lot of real grief if he will revise his labels to the point that he believes down in his heart that they are honest and not misleading in any particular.

RECENTLY WE PUBLISHED AN ARTICLE indicating that the A.M.A. Council on Pharmacy and Chemistry would not amount to much in the future due to the greatly increased powers given the FDA by the new law. We will have to revise this opinion slightly if the FDA insists that manufacturers must state in their labeling the fact that a difference of opinion regarding the use of a drug or cosmetic for a particular use exists in scientific circles. Certainly if the A.M.A. condemns any product, the manufacturer would have to state that a difference of opinion existed. Recently the A.M.A. stated that cresols beneficial had no therapeutic action in cold remedies, and more recently they failed to see anything of merit in colloidal sulfur when used for arthritis. Now these two classes of products will have to state the fact that a difference of opinion exists in medical circles regarding their use. O Boy, what a tough one.

THE FACT THAT THE NAMES of the therapeutically active ingredients of all drug products must appear on the label is going to cause many headaches. Heretofore, proprietary medicine manufacturers did not have to use U.S.P. ingredients so long as they did not put the names of the ingredients on the label, Therefore, some manufacturers used such things as chamomile siftings, or other forms of products which did not comply with U.S.P. requirements and were perfectly justified, under the law, in doing so. But now that they have to mention these ingredients on the labels, they must either use the U.S.P. grade, or tell the differences from the U.S.P. grade. We hope, with other people, that this provision will raise the standards of some drug products.

SOMEONE RECENTLY ASKED the question as to whether or not a perfume was a cosmetic within the meaning of the Federal Food, Drug, and Cosmetic Act. The definition states that a cosmetic includes those things used for "promoting attractiveness," and certainly any perfume does that. Furthermore, no one will deny that a deodorant is a cosmetic, and if a deodorant is a cosmetic, it naturally follows that a perfume is.

A DEFINITE UPTURN has taken place in general business as well as in the drug business. This has not as yet made itself felt in the general retail trade, but the turn has come and it will be only a short time until it will be felt everywhere. Unfortunately for manufacturers of chemical products, this upturn has caused prices to weaken in some instances. However, buyers should not be surprised to see them harden again as soon as the sellers know that they are getting their share of the business that is now available.

OUR ARTICLE ON "THE WHOLESALERS' PROBLEMS" published in the October issue has brought a response from R. E. Lee Williamson, secretary of the Federal Wholesale Druggists' Association. Mr. Williamson once again explains the cooperative wholesaler's method of doing business and gives his reason why he believes it is a perfectly proper way of doing business. As long as the drug trade has the different types of wholesale houses differences of opinion will continue as to which way is the proper way to do business, and the manufacturer will be called upon to referee the fight between the houses using the different methods. All we can say is that the cooperative method of doing business gives the retailer a larger profit on the nationally advertised goods which he sells, and with retailers pressing for more profit or higher price maintained minimum, this offers manufacturers a way out. There is no use denying the fact that someone has to pay for the higher profits of the retailer under price maintenance. So if the consumer is to pay no more, and the retailer is to make a higher profit, then the manufacturer or the wholesaler must pay the difference. For this reason, the maintaining of prices in the wholesale field will pass whole cost back to the manufacturer and will make those who have been getting ten off from their wholesalers holler for still higher minimum prices. Higher minimum prices mean loss of business to competing articles, and the only way in which manufacturers can meet this competition is by reducing their prices. It's just too bad that someone has to pay, but they do, and the ball will be passed back and forth for a long time to come.

VITAMIN B_1, OR THIAMIN as it is now called, is undoubtedly being promoted in a real big way. Riding the subways we read that Quaker Oats contains thiamin, that great health building substance. Perhaps this is what makes oatmeal "stick to your ribs," as we have always heard it did on a cold morning. Now a new form of Nujol is being marketed under the name of Vita-Nujol, which is an emulsion of mineral oil containing 400 international units of vitamin B_1.

But the surprising thing about this substance is that the Quaker Oats Company approaches the public with the word thiamin rather than with vitamin B_1. Evidently this company feels that the vitamin thing has been overdone or that the public is apt to be confused due to the fact that so many vitamins have been exploited. Perhaps the A.M.A. is right that the word vitamin should be dropped as soon as scientific or chemical names are found for these products.

"Yeah, I've read the regulations."

THE REFUSAL OF ENFORCEMENT Chief Walter G. Campbell is made known what new drugs have been approved by the Food and Drug Administration is laudable in the fact that the producer of something new will at least be protected from imitators until he has his product on the market. On the other hand it is regrettable because of the fact that the industry should be able to know of advances in the industry as soon as they are made. Enforcement Chief Campbell has found something in the law which he believes prevents him from giving out this information. So as long as Mr. Campbell maintains this idea and treats everyone alike, there is little about which to quarrel with him.

WE THINK THAT ENFORCEMENT CHIEF Campbell's ideas on products that cannot be sold over the counter are just a little far-fetched. Products such as sulfanilamide, cincophen, and aminopyrine are actionable under the law when found in commerce so as to be available to the general public. When asked if a precautionary statement on the label that the product was only to be sold on physicians' prescriptions were sufficient, Mr. Campbell said, "No." Mr. Campbell maintains that such precautionary statements have been used before and have failed to stop over-the-counter sale to the layity. What a manufacturer can do beyond this is the great problem. As far as the problem has gotten toward a solution is that Mr. Campbell believes that a manufacturer will be living up to the law if he obtains signed contracts from those to whom he sells guaranteeing the manufacturer that the goods will not be sold except to the medical profession or on physicians' prescription. So all the manufacturers who are putting out products containing sulfanilamide, cincophen, or aminopyrine had better get busy and have every wholesale and retail account to whom they sell these products sign the necessary contracts.

Now we can see how Enforcement Chief Campbell is going to make these provisions effective throughout the country even if the state or municipalities do not have local ordinances controlling these products. It's going to be pretty tough for the manufacturers. We wonder just what a manufacturer is supposed to do if one of these contracts is violated. We suppose he must sue the retailer and obtain an injunction. Then the next time the retailer will be declared in contempt of court. Nice business for the manufacturers to be suing their customers in this way. Or perhaps all he will have to do is to report the case to the FDA. Or perhaps the FDA will dig up the violations and then prosecute the retailers if they have signed contracts. If they have not signed contracts then the FDA will naturally crack down on the manufacturers.

And one last thought on this subject. How is the manufacturer going to make every retailer sign such a contract? And supposing the retailer refuses to sign such a contract and then obtains his goods—not from the manufacturer—but by a roundabout way, how is the manufacturer going to protect himself. Just another tough problem under the new law.

WHAT'S IN THE

THE regulations for enforcement of the Federal Food, Drug, and Cosmetic Act are much more drastic than manufacturers of drugs and cosmetics thought they would be. Without doubt, the regulations, in some respects go beyond the law. However the Food and Drug Administration is holding a hearing in Washington on November 17 to hear the arguments against these regulations. After the hearing, the Food and Drug Administration will not be required to change any of the regulations, and there is no court appeal for the greater part of the regulations, and no appeal for those regulations which will prove most objectionable and annoying to the average manufacturer in his daily business. The only way in which a manufacturer can act, if he believes that are gulation goes beyond the law, is to label, or otherwise market his products in accordance with his own interpretation of the law, and then fight the case which the FDA brings against him. This will settle the one case but not any others, unless a case is brought to the Supreme Court and the court declares a regulation out of order.

Therefore, for all intents and purposes, the manufacturers had best study carefully the regulations as they now stand. If, following the hearing, and before the first of next year, the FDA makes any changes in these regulations, manufacturers will not be far away from just what they are required to do. Remember, that those interested in very strict enforcement of the law, such as the A.M.A., Consumers' Research, Women's Clubs, Economic Leagues, and other so-called consumer interests, will be present at the hearing as well as manufacturers of foods, drugs, and cosmetics. So the FDA will be told that the regulations are not drastic enough, as well as they will be told that they are too drastic. Changes in the regulations as they are finally promulgated, are just as apt to go in one direction as they are in the other.

With regard to labeling of a product, it must be remembered that the law contains a definition of "label," and also a definition of "labeling." To quote the law:

"The term label means a display of written, printed, or graphic matter upon the immediate container of the article."

"The term labeling means all labels and other written, printed, or graphic matter (1) upon any article or any of its containers or wrappers, or (2) accompanying such article."

The law states that those things which are required to appear on the label must also appear on the outside container or wrapper. And the regulations say that everything required to appear on the label must appear on the front label or that label which is likely to be displayed. Further, say the regulations, of two sides of the package are likely to be displayed, then this information must appear on both sides. The regulations go further and state that if the trade-mark design or other things not required by the law take up so much room on the front label that required information is crowded off or is made too small, then the trade-mark, design or other information must be lessened in size until there is room for the required information.

It is well to consider just what the law requires to be placed on the label. For cosmetics, the only required statements are the quantity in the package, and the name and address of the manufacturer, packer, or distributor. The regulations say, as the regulations for enforcement of the old law said with reference to drugs, that the name must be qualified to say whether the name is that of the manufacturer, packer, or distributor. This is to be done by cosmetic houses, having one or more products made for them, by adding to the name the words "Packer," "Packed For," or "Distributor." Thus in the case of a seller of nail polish manufactured by another and shipped to the seller in drums for repacking, the name should bear the word "Packer." Where the private brand house completes the product in the finished package, the seller can label the product either, "Packed For," or "Distributor." In the case of a seller who has a private formula which no one else uses, but who has his goods made by another, the label could probably bear the words "Packed Expressly For." Very few cosmetic labels now bear the quantity and

REGULATIONS?

Full text of the Proposed Regulations starts on Page 573.

COSMETICS

1. **Cosmetics must have on the front label the full name and address of the manufacturer, packer, or distributor. The name must be identified, that is, if you are the actual manufacturer, you must say so; if you do not make the product, but only package it, you must say "Packer"; if the product is manufactured and packaged for you, you must say "Packed For," or "Distributor."**
2. **Cosmetics must also have on the front label the quantity in the package if the contents are one-half ounce avoirdupois or over, or if the contents are one dram or over. Also the quantity marking must be indicated in the largest unit. Therefore, Twenty-Four-Fluid Ounces would be incorrect, the proper way being One Pint, Eight Fluid Ounces. The same method must be applied to measures of weight. English system must be used, although metric system can also be given.**

DRUGS

1. **Drugs must have on the front label the name and address as explained with reference to cosmetics.**
2. **Also the quantity marking must appear on the front label of drug products, and either English system or metric system may be used. The same rule applies to drugs as applies to cosmetics, in that Sixteen Fluid Ounces cannot be used, such a package must be marked One Pint. There are no exemptions for small packages allowed under drugs, everything must be marked with the quantity.**
3. **Also on the front label of drug products must be given names of the therapeutically active ingredients; the quantity or proportion of any kind of alcohol; and the quantity and proportion of any bromides, ether, chloroform, acetanilid, acetphenetidin, amidopyrine, antipyrine, atropine, hyoscine, hyoscyamine, arsenic, digitalis, digitalis glucosides, mercury, ouabain, strophanthin, strychnine, thyroid, or any derivatives of these substances.**
4. **Also on the front label of drug products must appear the statement "Warning—May be habit forming" if the product contains any alpha eucaine, barbituric acid, beta-eucaine, bromal, cannabis, carbromal, chloral, coca, cocaine, codeine, heroin, marihuana, morphine, opium, paraldehyde, peyote, sulfonmethane, and any derivatives of these substances.**
5. **Also on the front label of drugs liable to deterioration must appear a statement of precautions to be taken.**

name and address on the front label, and none that we have seen tell whether the seller is the manufacturer, packer, or distributor. So we can see at least some change in practically all cosmetic labels.

The act requires that a drug carry on its label—which to the FDA means the front label—not only the name and address and the quantity in the package, but also the active ingredients, the quantity or proportion of any kind of alcohol, the quantity and proportion of bromides, ether, chloroform, acetanilid, acetphenetidin, amidopyrine, antipyrine, atropine, hyoscine, hyoscyamine, arsenic, digitalis, digitalis glucosides, mercury, ouabain, strophanthin, strychnine, thyroid, or any derivatives of these substances. In addition the label of a drug is required to give warnings against deterioration, when such is likely, and against formation of habit when the product contains any alpha eucaine, barbituric acid, beta-eucaine, bromal, cannabis, carbromal, chloral, coca, cocaine, codeine, horoin, marihuana, morphine, opium, paraldehyde, peyote, or sulphonmethane.

Cosmetic quantity marking must be in the U. S. system of gallons, pints, quarts, fluid ounces and drams. The metric system cannot be used alone on cosmetics, but can be used if the U. S. system is also used. Also the marking must make use of the larger units, for example, sixteen fluid ounces would not be proper, and such a container must be marked one pint. The objection to this is that manufacturers who ship their goods into Canada would prefer to use the marking, sixteen fluid ounces, since the fluid ounce is the same measure in Canada, while the pint is not. Such a package would probably have to be marked one U. S. Pint, so as to be satisfactory to the Canadian authorities. Exemptions from quantity marking are grated to cosmetics containing less than one-eighth of a fluid ounce, or weighing less than one-half ounce avoirdupois. Since one-eighth of a fluid ounce is one dram, the quantity must be marked on a container of a perfume or other cosmetic if it contains one dram or more. If the container holds less than one dram, no quantity marking is necessary. Likewise with marking of weight, if the weight is one-half ounce or more, quantity marking is necessary, if the weight is less than one-half ounce, no quantity marking is required.

Drug quantity marking can be in the U. S. system or the metric system, and no exemptions are granted. Therefore the quantity must be marked on every container no matter how small are the contents. The same rule is applied to drug quantity marking as is applied to cosmetic quantity marking, namely that the larger units must be used, and one pint must be used instead of sixteen fluid ounces. However, with reference to this provision of quantity marking on both drugs and cosmetics, the regulations state that where there is an established custom of marking a drug or cosmetic in a larger number of smaller units rather than in the larger unit, this method can be continued. Therefore if some drugs or cosmetics have been, by custom, marked sixteen fluid ounces rather than one pint, this method can be continued.

Both drugs and cosmetics are required by the law to give in their labeling (this does not mean the front label but means any label or circular with the package) "to reveal facts material in the light of such representations or material with respect to consequences which may result from the use of the article to which the labeling relates under the conditions of use prescribed in the labeling or under such conditions of use as are customary or usual." This is a rather indefinite part of the law which will be developed as time goes on. But the regulations make one statement regarding this part of the law as follows:

"Among facts material in the light of a representation is the fact, when it exists, of a substantial difference of opinion as to the truth of such representation, among experts qualified by scientific training and experience to evaluate the truth of such representation."

This means that if the A.M.A. Council on Pharmacy and Chemistry gives an adverse report regarding the therapeutic value of a product, this fact must be stated in the labeling. Now that the A.M.A. also considers cosmetics, the situation exists with regards to those products.

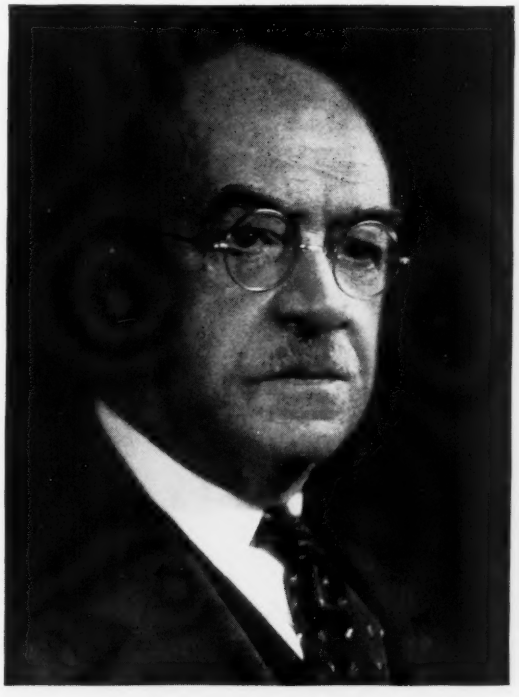
There seems to be no doubt that the FDA is in for plenty of lawsuits under the new law. Apparently this is the only way in which the new law can be properly applied. The FDA is adopting a most conservative attitude on all provisions of the law and the officials are apparently reading into the law things which are not there. Certainly, the law does not define "label" as the one panel of a package displayed to the public. A prominent attorney who has handled plenty of drug cases brought by the FDA states that he would underwrite a case opposing the regulation that information required by the law to appear on the label must appear on the front panel.

Other parts of the regulations will undoubtedly be fought in the courts shortly after the new law becomes entirely effective on June 25, 1939. Unfortunately, the small manufacturers cannot afford to fight, and therefore they must change their labels in accordance with the regulations as they are finally promulgated. But sooner or later the FDA will take action against someone who will fight, and then we will know whether or not the regulations have gone beyond the law.

Naturally enough the regulations do not cover what is right and what is wrong in claims made on the label and cosmetic manufacturers are no further along the road of knowing what the FDA will permit in the way of claims and what it will not permit. But claims are a matter that cannot be covered in regulations. The FDA will doubtless act upon classes of cosmetics when the new law becomes effective much in the same as worked on classes of drug products some years back. In other words they will take a product such as cold cream and decide what can be said and what cannot be said. Then they will move on to another cosmetic, and still another until they have covered the entire range of products.

THE COOPERATIVE WAY

By R. E. LEE WILLIAMSON



R. E. LEE WILLIAMSON

THE question of the equalization of prices, or, if you translate that phrase into another term, maintenance of prices, has been given an impetus by the Fair Trade Laws and Miller-Tydings Law so that the effort to accomplish that purpose is more pronounced in the past two years than it has been in any recent ten years.

My information, speaking for the Federal Wholesale Druggists Association, is that we have complied with and cooperated with every manufacturer who has tried to set up a stabilization of prices. There is only one thing that we have been very insistent upon, and that was that if a manufacturer wanted to stabilize prices he first must start to stabilize those prices in the retail field. Unless he did that, we were not sympathetic with him in any of his efforts to stabilize prices in the wholesale field.

Personally I don't think there is any reason economically, financially or otherwise, for the manufacturers to get very much excited over the necessity for stabilizing prices in the wholesale field. In looking over the various wholesale organizations of this country in the drug industry, I fail to see any of them that do not seem to be fairly prosperous and do not seem to be able to get along very well. We rarely, if ever, hear of a receivership in the wholesale drug business. It is a most unusual thing, comparatively speaking. However, some people seem to think there should be a stabilization of prices at wholesale, and it has been assumed under the law that such stabilization can be brought about by the fair trade contracts and manufacturer-wholesaler contracts.

Not to get into a controversial subject, but just to touch on it in passing, I don't think any fair trade law—when being formulated for passage in a state legislature—was thought to be designed to do anything but protect prices at retail to the consumer in order to protect the good-will and trade-mark of the manufacturer. Unless you stand on that, the law is unconstitutional and the higher courts have decided on this. Yes, they have all stood on that one platform—the right to fix these prices is simply for the purpose of protecting the manufacturer's trade-mark and his good-will, for the building up of which he has spent money. Unless you take that stand, the right to stabilize prices is sunk and the courts are going to reverse it. That is a little beyond the question.

In talking with the members of the Federal Wholesale Druggists Association, and I have more or less contact with them, as you may imagine, I have failed to find any of them, (and I say that very definitely) who will not cooperate with the manufacturer in these stabilization efforts provided the retail prices are stabilized. They may do it under protest and they may tell an individual manufacturer that they object to it because they think it is economically unnecessary. But they

(Continued on page 544)

THE ENDOCRINE

"The mechanism of insulin action is still in great part a riddle."

THE pancreas is an elongated glandular mass which lies transversely on the posterior abdominal wall, with its right end resting in the cavity of the duodenum, and its left end touching the spleen. It is of a reddish-cream color, soft to the touch, and distinctly lobulated. The gland belongs to the class of acino-tubular glands, its alveoli or acini being elongated like those of the duodenal glands; otherwise it corresponds very closely to a serous salivary gland. The pancreas has two very important functions. It secretes the pancreactic juice, which is carried by the pancreatic duct to the small intestine; this constitutes its *external* secretion. In the body of the pancreas are found small masses of cells called the Islets of Langerhans which have no connection with the pancreatic duct, and are not concerned in the formation of the pancreatic juice, but which elaborate an "*internal secretion*," INSULIN, which is thrown into the blood stream.

The discovery of insulin by Banting and Best in 1921, and its preparation by these two workers and Collip, led to rapid strides, not only in the treatment of diabetes mellitus, but also in the elucidation of many major problems in the metabolism of carbohydrates. When the function of the islets is disturbed, there are definite symptoms which follow. If the disturbance lessens the output of the endocrine principle, insulin, below an essential minimum, a *hyper*glycemia[1] develops, and in the event this condition of *hypo*insulinism persists, all of the symptoms and findings associated with diabetes mellitus follow.

On the other hand, if the output of insulin is increased above a definite normal maximum, this condition of *hyper*insulinism produces a *hypo*glycemia,[2] which, if unrelieved, results in coma and death.

As a result of a decrease in the islet function, through disease or removal, there results first a loss of power to catabolize the carbohydrates, as shown by undue hyperglycemia and a glycosuria.[3] The loss of power increases, and, if the diet includes the usual proportion of carbohydrates, the loss in power is hastened, but if the carbohydrate content of the diet is largely replaced by fat and protein, it is slowed. When the amount of carbohydrate properly catabolized drops below a certain definite level, the catabolism of fat is also affected, and instead of the fatty acids being completely oxidized to carbon dioxide and water, through the stages of butyric acid, beta-hydroxy-butyric acid, and aceto-acetic acid, a slower transformation to acetone gradually replaces this oxidation. This conversion is so slow that acetoacetic acid and its precursor accumulate in the tissues. They pass into the blood where neutrality is maintained by combination with blood base and excretion of the neutral product through the kidneys. As a result, the blood base is diminished, and as it gradually falls, the symptoms of an acidosis gradually become apparent. The untreated patient ultimately passes into a coma, which is characterized by "air-hunger" through the incapacity of the decreased blood base to clear the accumulating carbon dioxide. Finally death takes place.

Thus the untreated diabetic develops in order hyperglycemia, glycosuria, acetonuria, acetone in the breath, the presence of acetoacetic acid in the urine, and a decrease in blood bases to low levels. These changes are attended by thirst, because more water is required to excrete unoxidized glucose; hunger, due to the fact that much of the ingested carbohydrate cannot be adequately utilized; fatigue, since the carbohydrate which is utilizable is insufficient for muscular needs; loss of weight, also due to insufficiency of utilizable carbohydrate, so that the body fat and ultimately body protein are drawn upon; and finally the drowsiness and coma which attend the acidosis.

If insulin is injected in adequate amounts and at sufficient intervals, the order of these changes is reversed, and restoration to normality ultimately occurs. In the event coma has supervened, insulin, with, if necessary, the intravenous injection of glucose solution, abolishes it; the ketonuria is corrected, and normal fat catabolism is restored. The glycosuria disappears, and the hyperglycemia is lessened. With correct dosage

[1] An excess of glucose in the blood.
[2] A deficiency of glucose in the blood.
[3] An abnormally high proportion of sugar in the urine.

COMPOUNDS

THE ISLETS OF LANGERHANS

By A. RICHARD BLISS, Jr.

of insulin, proper supervision of diet, and correct control of exercise and work, the diabetic can be maintained in health for years.

If the injection of insulin is in excess of normal conditions, the blood sugar is depressed below normal, and this artificial hyperinsulinism induces a hypoglycemia, which is attended by characteristic symptoms, and ultimately leads to a coma, but a coma in which the use of insulin may be fatal.

Abel first crystallized insulin in 1926 by treating acetic acid solutions of commercial insulin preparations (10 to 20 clinical units per mg.) with an excess of brucine acetate, and then with pyridine. Pyridine, at pH 4.2 to 5.3, precipitates various impurities. The addition of sufficient 0.65 per cent. ammonia raises the pH to about 5.6, and insulin crystallizes out. Recrystallization may be carried out, without the addition of brucine acetate, without any loss of activity. Insulin has been crystallized from crude preparations without brucine or ammonia. Digitonin or saponins may be used to bring about crystallization. Very powerful insulin preparations have been made by several procedures, and some of these are probably 80 to 90 per cent. pure.

Crystals of insulin are well defined; they rarely exceed 0.01 mm. in diameter; and analyses give the empirical formula $C_{45}H_{69}O_{14}N_{11}S$. The crystalline compound appears to be dimorphous, and is laevo-rotatory. Determined by ultracentrifuge methods, its molecular weight is 35,100, the molecules being spherical, and with a radius of 2.18 mμ. Changes which affect the whole insulin molecule support the view that the activity of insulin is inherent in the molecule itself. Digestion experiments with pepsin and trypsin indicate that even the slightest degree of destruction of the protein molecule results in loss of activity. Insulin dissolves readily in dilute acid and alkali, and in 90 per cent. phenol; it is slightly soluble in 80 per cent. alcohol.

Crystalline insulin gives the Biuret, Pauly, Millon, and ninhydrin reactions, Sakaguchi's Test for arginine, and positive tests for cystine, but the sulfydryl group, and carbohydrate and tryptophane radicals appear to be absent. Hydrolysis studies have indicated a distribution of amino-acid radicals as follows: cystine, 12 per cent.; tyrosine, 12 per cent.; leucine, 30 per cent.; glutamic acid, 21 per cent.; histidine, 8 per cent.; arginine, 3 per cent.; lysine, 2 per cent. Proline and phenylalanine are also present. There is 3.2 per cent. of sulfur present, all in disulfide linkage. To date, 88 per cent. of the insulin molecule has been accounted for.

Crystalline insulin preparations show a trace of zinc or some related element. Beef pancreas contains about 20 mg. of zinc per Kg. of fresh material, but it has been shown that the amount is not proportional to the insulin present. As yet, there is insufficient evidence to associate zinc with the function of insulin; in fact, the zinc salts appear to delay insulin action.

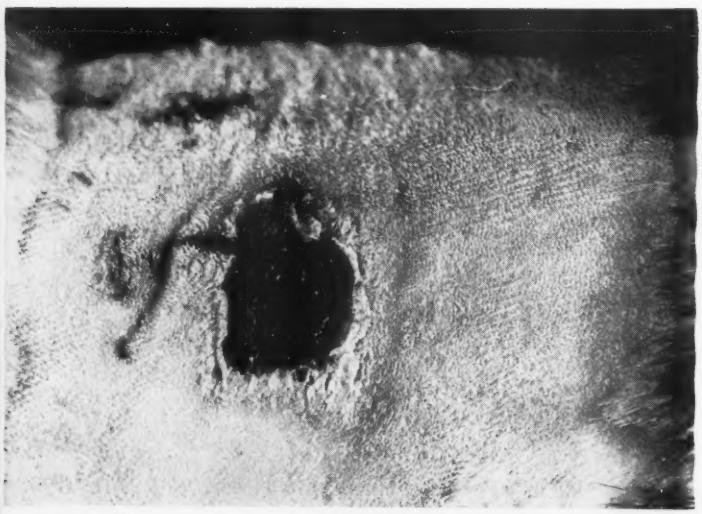
Insulin is inactivated by the addition of formaldehyde, but by splitting off the formaldehyde the activity is partly regenerated. Crystalline insulin is inactivated by acid methyl alcohol, but sodium hydroxide partially reactivates it, and when the reactivated material is recrystallized, the crystals show the same microscopic appearance and physiological potency of the original crystals. Solutions of crystalline insulin and of very potent amorphous preparations are coagulated by adding hot, dilute hydrochloric acid, the coagulum retaining nearly all of the activity. Many additional studies of reversible and irreversible inactivation suggest that if there is a specially active group in the insulin molecule, it is probably a cystine-glutamine derivative.

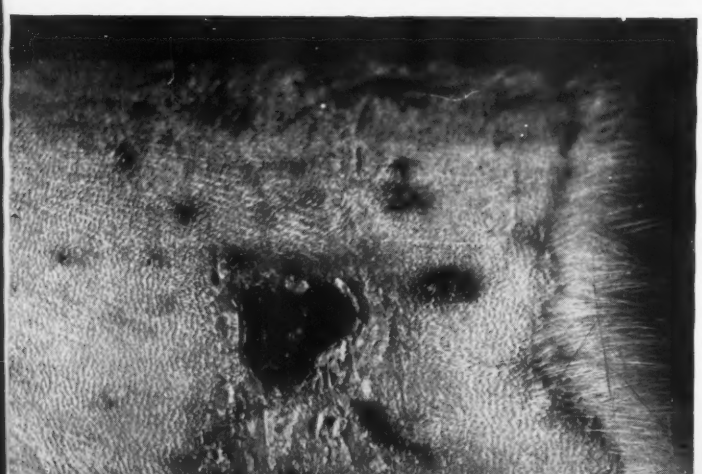
Dingemanse claimed that it is possible to prepare an insulin more potent than crystalline insulin, with a somewhat higher nitrogen and sulfur content, and representing the prosthetic group of insulin, by adsorption on charcoal, elution with phenol, and precipitation from the phenol solution by dilution with water. No supporting evidence or confirmation of this work has appeared, and his methods do not appear to produce sufficiently drastic interference with the protein molecule to induce separation of a prosthetic group.

TOPICAL THERAPY WITH

EMPLOYED for many years as a specific for rickets and in the treatment and prevention of certain infectious diseases, cod liver oil is now performing a new and no less important service in the surface management of lesions amenable to topical therapy.

Medicine would welcome any advance in this field inasmuch as the restoration of traumatized tissue demands a lion's share of the physician's time and efforts. This is so not only because of the refractory nature of the pathology but also on account of the tremendous number of cases occurring daily, engendered by unavoidable exposure to the destructive influences of thermal, mechanical, bacterial, and other forces capable of direct injury. Physiologic dyscrasia contributes its share of dermatologic pathologies requiring topical treatment.





In view of the foregoing, as would be expected, vitamin oils have been received as the long awaited "Messiah," therapeutically speaking and naturally have been the subject of much study. Clinically, the value of cod liver oil therapy has been firmly established but the underlying factors responsible for the beneficial activity are still undetermined. The mass of opinions, theories and clains so far promulgated, are so divergent that no satisfactory conclusion can be drawn.

Lohr[3-6] was probably the first professionally to use cod liver oil in the treatment of extensive burns. He claimed that a rapid cleansing of the wound occurs and epithelization is stimulated to a degree not seen in any form of treatment. This pioneer[16] feels that Vitamin A and D are the active agents involved. Hayashi[35] is of the belief that the chief effect should be credited to the lipoids present in the oil but he concedes that the vitamins are secondarily concerned. Lohr and Treusch[17] state that vitamins A and D are predominantly accountable for the favorable reactions noted. Horn and Sandor[54-24] are impressed with the results following the use of vitamin A ointments. Davson[38] is positive that vitamin A is not the important factor. He substantiates his statement by injecting subcutaneously cod liver oil and halibut liver oil into the ears of rabbits. Later histologic examinations reveal an equal degree of tissue response for these two oils. Since halibut liver oil has one hundred times the vitamin A potency of cod liver oil, it seems that there should have been a difference in tissue reaction in favor of the higher potency. Dilutions in olive oil (1:20) were made of the above oils and observed in the same manner. Physiologically, the two oils were now comparable. It is obvious that this dilution reduces the vitamin A content of cod liver oil to a negligible concentration and yet its degree of activity is no less than the halibut liver oil dilution, which

FISH LIVER OILS

By L. STAMBOVSKY

On the opposite page is shown a burn treated for ten days with linseed oil, below which is shown a similar burn on the same animal treated for ten days with cod liver oil. On this page is shown a burn treated for ten days with linseed oil, below which is shown a similar burn treated for ten days with linseed oil and vitamins A and D.

even though greatly weakened, still contained five times more vitamin A than does whole cod liver oil. It would be well to bear in mind that Davson was dealing normal and not pathologic tissue.

Puestow, Poncher, and Hammatt[66] conducted a series of tests wherein burns were treated with vitamin oils of extremely varying content of both vitamins A and D. Ointments were prepared of the following potencies:

	Vitamin A units per gram	*Vitamin D units per gram*
Ointment No. 1.....	"0"	625,000
Ointment No. 2.....	28,125	46,875
Ointment No. 3.....	237,500	1,250

Irrespective of the extreme difference in vitamin concentration of these three ointments, they all exhibited approximately the same intensity of healing acceleration. It should be mentioned that the wounds treated were not all of equal area. Comparisons were made by recording time required for complete cicatrization of a single wound on each animal. Variation in ability to regenerate tissue in different animals is well known and might lead to considerable error unless an average was taken of a number of experiments.

Pozzan[67] maintains that vitamins A and D in vaseline retards healing as does vaseline alone but that devitaminized cod liver oil in vaseline influenced healing favorably, though more slowly than the normal oil. His experiences are contradictory, first it is found that vitamins A and D retard epithelization, then that normal cod liver oil was more effective than devitaminized oil. According to Pozzan's findings either the vaseline prevented the vitamins from functioning, or if they are unconcerned, the process of devitaminization destroyed another factor in the oil responsible for its stimulating action.

Adequate evidence has been presented to illustrate the complete lack of agreement among investigators relative to the underlying mechanism of vitamin oil therapy. The writer has been of the opinion that certain unsaturated fatty acids contained in fish liver oils are primarily responsible for the favorable results attained. Durfee[68] agrees with this hypothesis but adds the thought vitamins A and D enable regenerative cells to make use of these fatty unsaturates. If one will countenance the repeated claims that in traumatized

tissue there may be a shortage of vitamins A and D due to interrupted supply or increased demand, then Durfee's theory supporting the topical use of vitamins is easily acceptable.

Certain fatty unsaturates existing in vegetable and animal oils are irrefutably important in the maintenance and regeneration of epithelial tissue. The Burr fat deficiency syndrome has been definitely recognized. Briefly, this pathology is produced in rats kept on a fat free diet to which vitamins A, D, and E have been returned in a non-fatty vehicle. The symptoms are mainly a scaly and unhealthy skin, loss of hair, ridging and inflammation of the tail, loss of resistance to infections, and finally kidney damage. Minute amounts of linseed oil or linoleic acid will correct the condition in an amazingly short time. Other fats such as lard, corn oil, etc. will also relieve these symptoms although not as efficiently as linseed oil or its fatty unsaturates. Saturated fats have been proven to be of no value in this capacity. Curiously enough linseed oil rather than other vegetable oil has been used for centuries in the treatment of burns, it being the basis of the well known carron oil. There is much bibliographic evidence supporting the value of these vegetable unsaturates in the treatment of skin disorders and burns.

Inasmuch as linoleic acid is itself a component of skin and if it is acceptable that this and other fatty unsaturates topically assist in the maintenance and restoration of normal epidermis, then why is it not possible that certain fatty unsaturates contained in fish liver oils act in a same manner, and are in a great measure, the fundamental basis of vitamin or fish oil therapy.

Through the courtesy of the Applied Research Laboratories the writer was permitted access to facilities with which an attempt was made to illuminate the subject. The objectives were first, in what degree are the vitamins involved and second, what part is played by fish liver oil unsaturates. Ten rabbits were available. Their backs were shaven and two burns one inch square were produced on each animal, one burn on each side of the spine. Assiduous care was exercised in the production of these wounds in order that a minimum of error would be introduced by differences in intensity of burns. A branding iron of the area mentioned was heated to redness and then allowed to cool until the glow was just extinguished. At that instant with proper timing and pressure, a second degree burn was effected, the animal having been previously anesthetized. Three medicaments were observed, cod liver oil, linseed oil, and vitaminized linseed oil. The latter oil was twice the vitamin A and D potency of cod liver oil. In one group of five animals, one wound was treated with linseed oil and the opposite wound on the same animal was treated with cod liver oil. In a like manner the second group of five were treated with linseed oil and vitaminized linseed oil. Evaluations were made on the basis of time required for complete epithelization, the beginning of hair follicles and the general appearance of the healed wound. In this limited study cod liver oil appeared definitely superior to linseed oil. Vitaminized linseed oil seemed appreciably more effective than plain linseed oil. Although it is admitted that the comparison of wounds on different animals is poor technique, especially when the total number is so small, it was felt that the cod liver oil was more stimulating than the vitaminized linseed oil. This, if more conclusively proven, would be positive evidence of another factor in cod liver oil other than vitamins A and D accountable for a portion of its activity.

It would be in order to point out that cod and other fish liver oils do contain small quantities of an extremely potent unsaturated fatty acid. Turpeinen[73] while studying fat deficiencies found that 33 milligrams of methyl arachidonate was equivalent to 100 milligrams of methyl linoleate in curative value. This acid does exist in fish liver oils in the form of glyceryl arachidonate.

If an analogy may be drawn between internal effects of arachidonic and linoleic acids, is it not possible that glyceryl arachidonate might be three times as effective as glyceryl linoleate in its local reaction when applied to wounds?

Summary:

1. The large quantities of fatty unsaturates found in linseed oil are in themselves not superior to cod liver oil.
2. Vitamins A and D do contribute to the effectiveness of fish liver oil therapy.
3. It would seem, that in equal units, the fatty unsaturates in fish liver oils are more powerful in the stimulation of tissue growth, than the fatty unsaturates in vegetable oils.

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The Cooperative Way

(*Continued from page 539*)

have done it, and when they once promise, they do it as promised.

Now we don't give discounts. We don't discriminate in prices. We don't make a quantity price. Our price, theoretically,—and it would so be if we had our way,—is the same price for the smallest quantity as the price for the largest quantity.

We do distribute the profit that we make on your merchandise, and we do distribute that in a cooperative way. That is the basic principle of the system on which our business is founded, and we are going to continue to conduct our business on that basis. Why? First, we founded it on that basis. Second, we know that it is fair and honest to the people with whom we do

(*Continued on page 555*)

FOR THE YOUNG SKIN

With the good grooming movement gathering momentum in the girls schools and colleges throughout the country and with many girls and women's clubs taking up the good work outside the halls of learning, it was high time that some cosmetic manufacturer marketed a line specifically for the adolescent skin. Although there have been products and even lines for infants, no one, apparently had directed special products and merchandising efforts at the large adolescent age group, with its particular and extremely important skin problems and with its awakening interest in appearance and the use of cosmetics to enhance this appearance. Now, however, Rose Laird is marketing a series of "Young Skin" products, new creams, lotions and make-up articles, packaged, promoted and merchandised to adolescent youth with appropriate "young skin counsel for young ladies and young gentlemen."

The "Young Skin Counsel" made its debut in the Bonwit Teller debutante department on the eighth floor. A Rose Laird skin counsellor presides at "The Young Skin Booth," dispensing the products along with specific information and advice. From the day that the first purchase is made, the name of the purchaser is entered in a register so that a complete history will be available to her or him at all times and proper guidance given.

The line itself is an interesting one involving everything from caring for young skin and scalp, to well chosen shades in cosmetics. First there is Rose Laird Young Skin cleansing cream for normal or dry skins—a white and fluffy cream containing an emollient to help prevent drying natural skin oils. Then there is also a liquid cleaner with a mild astringent action for the removal of the last traces of the cleaning cream. Liquid facial soap applied with a complexion brush is recommended for dull, oily complexions. Young Skin protective face lotion shields the skin from exposure and makes an excellent powder base, helps cover blemishes and makes an excellent powder substitute if powder is temporarily cut out of the curriculum. It comes in colors corresponding to the powder shades. The Rose Laird Young Skin base cream is of a light consistency and besides being a good cosmetic foundation, protects the skin against chapping, sun or windburn. The Young Skin greaseless lubricant is said to be free of wax and oil and is even recommended by Rose Laird for problem skins that cannot as a rule use products containing fats and greases because of some allergy. Overnight ointment soothes, helps relieve congested pores, takes away redness and aids in clearing minor skin irritations.

In dealing with the very young, Rose Laird has very wisely included preparations for a care-of-the hair routine. Young Skin normal scalp lotion and one for dry hair are part of the line, and together with a hair-brush is suggested for proper hair care.

The cosmetics are particularly well thought out for young ladies and consist of five shades of powder—

(*Continued on page 555*)

CAMPHOR FROM HERBS

Camphor plants grown in Southwest Michigan between rows of celery.

NATURAL camphor, until quite recent times, has been obtained entirely from the branches and twigs of the camphor laurel,—an evergreen at times attaining great size and growing most profusely in Southern China and Japan. It is often used in southern United States as an ornamental. Up to recent times the world's supply of camphor has come from Japan, mainly from Formosa. She still is the dominant factor in this commodity. Artificial camphor produced from pinene fractionated from American turpentine has made big inroads into natural camphor. The synthetic product meets the U.S.P. requirements and for general purposes is just as good as the natural camphor. It is, therefore, replacing the natural product in the manufacture of medicines, celluloid, film and other uses.

A number of years ago, investigations under the direction of the U. S. Department of Agriculture led to the establishment of an industry for producing natural camphor in Florida. The camphor tree thrives well in that state but the industry did not thrive. It has been virtually discontinued and the distillation plants which were established to produce camphor have been dismantled, possibly due to the production of artificial camphor discouraging producers of natural camphor in that state.

From time to time, especially in our southern states, statements are made by natives that certain plants contain camphor. These statements, however, cannot be verified. The plant family said to contain camphor usually referred to is the *Labiatae* or mints. This family of herbs is represented in North America by about 50 genera, comprising 231 species and 45 varieties. Numerous other species exist in other parts of the world. All of the species are aromatic by virtue of the volatile oil that fills the immersed glands in the leaves. Many of these mints, due to their widely-varying properties and aromatic odor, have been employed for their medicinal value, either actual or imagined. We need only give passing mention to the fact that peppermint and spearmint are grown quite generally for the production of their essential oils.

In 1926, Mr. J. L. Green investigated a plant of the mint family growing in East Africa. It was known locally as "Kisi." Botanists find this plant to agree

NEW SOURCE OF NATURAL CAMPHOR POSSIBLE IN UNITED STATES

By Dr. E. G. THOMSSEN

fully with the description of *Ocimum canum*, though at first it was called *Ocimum Americanum*. It appears as a hardy perennial and thus far does not suffer from any known disease. Herbivorous animals refuse to eat it. The stalk is killed by frost but moderate cold does not kill the entire plant. When it grows the year round, it produces a large number of flower stalks 6 to 10 inches long. The flower is small and mauve in shape. The seed is very small (1mm. long), black and plum-shaped. A row of plants one foot long usually produces enough seed for planting a twenty-foot long row. The stem is square with opposite leaves, more or less two-lipped corolla. The herb grows to a height of from two to three feet.

The most interesting property of this species is that it yields, upon distillation, a goodly percentage of essential oil and camphor which are contained in the leaves. So valuable was this plant considered when first discovered growing in Africa that by 1928 a company was formed in the Kenya East Africa Colony to promote its exploitation.

This camphor herb has also been commercially produced in parts of the Soviet Union for the manufacture of camphor. More recently, Poland has studied the development of *Ocimum canum* and initial harvests revealed that this plant can be acclimatized in that country but that the yield of camphor depends upon further experimentation and cultivation before it can be grown upon a large scale.

In the research work which we carry out on The J. R. Watkins Company's experimental farms, we try among other things the cultivation of plants, the products of which we use in manufacturing our various products. Kisi was first called to our attention about five years ago by Dr. H. J. Kohl, of the Norda Essential Oil Company. It was quite difficult to obtain seed but we finally obtained some in 1935 and began our experiments on a small scale. About two years ago we were fortunate in obtaining a privately-communicated report of the experiments which had been carried out in East Africa. A summary of this work is interesting at this time.

Showing the root system of camphor plants grown in Southwest Michigan.

The experiment covered a lapse of several years. This time was necessary to prove that the seeds would multiply from year to year. It was found that the plant does

not grow wild except over a very limited space. A seed supply, therefore, had to be built up, first from a few plants up to one or two acres and finally forty acres were actually under put cultivation.

It was found that Kisi produced seed every three months under the ideal, East African climatic conditions from small mauve flowers very similar to those of sweet basil. The harvesting of the seeds is quite simple because of their arrangement and can be collected at small cost by unskilled labor.

The planting of the seed is not difficult. It is possible to drill the seed very rapidly in the same type of mechanical seeder used for seeding grain. In proper climates, the plant can be permanently seeded and for this reason the seeds are sown in rows about three feet apart so as to permit cultivation from time to time. It requires about a peck of seed per acre. When the seed germinates ample quantities of water are necessary and for this reason the planting can best be carried on with safety during rainy seasons.

It takes about six months for the shrub to grow from the time of planting to the first blossoming. After the blossoming and harvest, the re-growth is more rapid a d under proper climatic conditions occurs every three months. The plant, as has already been stated, is very resistant to fungous plant diseases, as well as insects.

In order to obtain the greatest yield of the oil, the plant should not be cut before complete maturity. The best time to cut it is just as it blossoms. If this is not done, the distillation yield is reduced very materially. A compilation of the yields at various times during growth is of interest. This is 0.23% before blossoming; 0.18% during blossoming; 0.23% during the formation of the seed; 0.5% minimum to 0.8% maximum during formation of the seed (according to proportion of the leaves and stalks); 0.5% to 0.8% after the maturity of the seed (according to proportion of leaves and stalks).

Under normal conditions, the first harvest six months or less after planting of the seeds gave a yield of 7 tons of cuttings per acre. This yield was obtained in a record dry year and was the smallest cutting for each plant during the first growth produces only one stalk. After the first cutting, the root system develops more fully and the foliage becomes denser with each harvest. In these experiments, it was ascertained that the second cutting increased 40% over the first, and the third cutting 100% over the first harvest. It is, therefore, estimated that from 40 to 50 tons per acre of branches and leaves may be produced under proper conditions.

The question of fertilizers has been given some attention, various types of soils having been tried and the refuse matters from the stills also having been returned to the soil as fertilizer. Certain soils, especially the red soils used for coffee growing, give profuse growth but a small yield of camphor. On the other hand, the volcanic soils favor the development of camphor in the plant.

The total yield, as has already been indicated and obtained by checking over 100 distillations of the green plant, leaves and branches, varies from 0.5% to 0.8%. The yields from the second cutting are usually greater than those of the first harvest.

The distillation of the plant was carried out in the usual manner. It required 20 to 25 liters of condensed water to carry off 3 kilos of oil. Seventy-five per cent. of the active matter in the shrub was removed and carried off by the first 12 liters of condensed water, the remaining water serving to remove the complete draining-off of the traces of oil remaining.

Since camphor crystallizes very easily and melts at about 175° C. the chief problem during the distillation had to do with the refrigerating machinery. It required good refrigeration in order to separate the camphor from the oil. This oil is a semi-solid mass containing about 65% camphor and 35% oil. The separation of the camphor and oil is easily carried out by cooling and separating in a centrifuge. By this method about 65% of the pure crystallized camphor was isolated, most of the remaining quantity being obtained by refrigerating and centrifuging a second time.

The oil which is separated from the camphor resembles Oil of Eucalyptus very closely.

The analyses of the camphor and oil produced in East Africa were made at the Institute of Chemistry, of Paris. It was found that the crystalline white camphor produced had the same physical and chemical properties as the camphor obtained from Japanese camphor. Its melting point was 178° and its optical rotation plus 40° 8′ in benzene. The separated oil was reported as closely resembling Oil of Eucalyptus, the same as that obtained from Australia.

We began our experiments in the United States in the spring of 1936. Our first experiments with the camphor shrub were conducted by planting seed in flats in the greenhouses. These flats were 2 feet by 3 feet with rich, sandy soil taken from our Winona farm about 3½ inches deep. The seed was planted in March and as the plants grew we thinned them out until we grew about four plants to the flat. The shrubs thrived hardily under these conditions so that by about August 1st they had grown to the height of 2½ feet and were showing seed stems. We then cut a sufficient quantity of the greens to make a small distillation in our laboratory and produced about 25 cc. of oil by steam distillation. We separated the camphor from the mixture and resublimed it for analytical purposes. We found it to have a melting point of 175.1° C. and a specific rotation of plus 41° 3′ which indicated that the product met the U.S.P. requirements. The only defect we found in this experimental lot lay in the odor. It had a foreign odor which was not like the natural Japanese camphor but we attributed this to the fact that traces of the oil still were contained in the camphor. Having proven to our own satisfaction that the shrub actually yielded camphor on an experimental basis, we transferred our scene of operations from Winona to Daytona Beach, Florida where we had better facilities for growing. We first set out some of the seed in the spring of 1937 and

met with fair success on a small plot in which we produced 200 to 300 pounds of the greens. They were cut just before blossoming time and sent to our laboratory in Winona by air express. We again produced a small quantity of the oil and camphor by steam distillation and were able to check the yield as being quite close to that indicated in the experiments pursued in East Africa, mentioned above.

Having proven to our satisfaction that the plant would actually grow in the Florida climate, but being somewhat discouraged at the fact that after it had been cut back about 60% of it died, we extended our experiments so as to plant an acre of the plant. This was set out after the danger of frost was passed—this past spring—and the first lot was harvested the first of August.

It is unfortunate that during this experiment Florida had the driest and poorest growing season in years. In spite of this drawback, however, we were able to harvest 3,600 pounds of leaves and stalks. This was loosely packed into burlap sacks and expressed to the plant of Givaudan-Delawanna, at Delawanna, N. J. It arrived at the plant the next day, but due to the fact that during the cutting considerable moisture had gathered on the plant it had started to ferment somewhat inside the bags and this fermentation possibly had some effect upon the yield of the distillate. From this 3,600 lbs., however, we obtained a total yield of 18 lbs. of oil and camphor mixture, 13¼ lbs. of which was obtained by direct distillation, and 4¾ lbs. by extracting the water. The camphor was separated from both the directly distilled oil-camphor mixture and the extracted oil-camphor mixture.

From the steam distilled oil mixture we obtained 6½ lbs. of crude camphor and from the extracted camphor oil mixture 2 lbs. of crude camphor. This left us 5¾ lbs. of camphor-free oil from the steam distilled oil and 3¾ lbs. of oil from the extracted oil. Our total yield of camphor from the total amount of camphor oil produced, therefore, was 47.2% and our yield of oil in the greens produced was 0.5% from the first cutting. This is quite close confirmation of the East African experiment as far as total yield of oil is concerned but lower in the percentage of camphor contained in the oil. It is unfortunate that perennials do not thrive very well in Florida with the result that the second growth of the shrub is not very satisfactory.

The crude camphor obtained in this experiment had a rotation of plus 40°. Upon sublimation it gave a rotation of 41° 1′. The melting point also was within the U.S.P. requirement.

The camphor oil freed from camphor analyzed—

Specific Gravity $\frac{25°}{25°}$	.9251
Rotation 20°	—.38°
Refraction n_D^{20}	1.475
Saponification Value	11.4

The camphor oil freed from the camphor from the extracted oil analyzed—

Specific Gravity $\frac{25°}{25°}$	.9649
Refraction n_D^{20}	1.484
Saponification Value	9.6

In physical appearance it is dark brown in color and has considerable odor value which is not at all suggestive of camphor and would undoubtedly be of value in the perfuming of soap, insecticides and similar products.

Later in the spring of 1938, we decided to try out some of our seed, mainly for the production of seed, in Michigan. This work was undertaken by one of the mint growers of Southwestern Michigan who grew the plants in the hothouse and set out a number of rows between celery. The object of this experiment was to discover whether seed could be produced in the cooler climates. The seeds had not been gathered at the time this article was written but the herb has thrived very well and evidently could be grown as a single-year crop in cooler climates. No distillations have been made from the greens from this particular field as the idea is to obtain a greater supply of seed.

The experiments are being extended in Florida and other plantings will be made on properties owned by our company in Tennessee, Mississippi and Louisiana.

It is fascinating to contemplate the possibility of a new crop of this type to the grower under proper conditions. If the yield of herbs could be approximated to that produced in East Africa there could be produced about 400 pounds of camphor-oil mixture to the acre by three cuttings. This would yield on our basis approximately 200 pounds of camphor and 200 pounds of oil having a value of $150.00 per acre as a first-year crop. If from this is deducted the cost of growing, distilling, fertilizing etc. the net profit per acre would amount to $90.00. Since the plant grows more profusely the second year and the yield of oil is stepped up, there is a possibility of increasing the total net profit per acre to approximately $125.00.

Since this plant is receiving attention in other countries, it is quite probable that it will eventually prove of value to the grower in our own country in such sections where the soil and climatic conditions are favorable to its growth. In any event, it is exceedingly interesting to us and we are continuing our experiments to ascertain whether this is possible.

These experiments would not have been possible without the cooperation of Dr. H. J. Kohl, of the Norda Essential Oil Company and Dr. E. C. Kunz, of Givaudan-Delawanna. The former secured the seed and other valuable information for us. The latter made available the stills and other equipment to produce the large lot of oil. Dr. Max Luthy, of Givaudan also aided greatly in actually carrying out the distillation and running the analytical determinations. I express my appreciation to these gentlemen for their aid.

DRUG SECTION AT SKYTOP

THE Drug, Chemical and Allied Trades Section of the New York Board of Trade held its third annual Fall Meeting and Golf Tournament at Skytop Lodge, Pa. on October 21 and 22. A record attendance of one hundred and forty men and women, together with the interesting business sessions and fine weather for golf made the meeting a huge success. Golf was held in the morning, the first foursomes starting out at nine o'clock. The meetings started at three o'clock in the afternoon.

The business sessions were arranged by Hugh Craig, editor of the "Oil, Paint and Drug Reporter," who was chairman of the Program Committee. At the Friday session, Charles Wesley Dunn, counsel for the American Pharmaceutical Manufacturers' Association, spoke and delivered a most enlightening address on the Federal Food, Drug, and Cosmetic Act and the Wheeler-Lea Act, James F. Hoge, counsel for the Proprietary Association, spoke on uniform state food and drug legislation, and R. P. Myers, of the legal staff of the National Broadcasting Company, spoke on what the radio people were doing with reference to the Wheeler-Lea Act.

At the second session the speakers were Edwin B. George, economist with Dunn & Bradstreet, and Hamilton R. Disston, vice-president of L. H. Gilmer Company, manufacturers of industrial equipment.

The meeting was conducted under the direction of Philip M. Dinkins, of the American Cyanamid & Chemical Corporation, chairman of the Section. Mr. Dinkins was assisted by William D. Barry, of Mallinckrodt Chemical Works, general chairman of the meeting; Robert B. Magnus, of Magnus, Mabee & Reynard, chairman of the Transportation Committee; A. A. Wasserscheid, of Mallinckrodt Chemical Works, Chairman of the Ladies' Entertainment Committee; and Ralph E. Dorland, of The Dow Chemical Company, Chairman of the Reception Committee. Ray Schlotterer, secretary of the Section, was everywhere in evidence aiding all in the details of the meeting. The golf tournament was under the direction of Charles E. Kelly, of Hagerty Brothers, vice-chairman of the Section. He was assisted by Bart F. Sheehan, of Grasseli Chemical Division of duPont, who was vice-chairman of the Golf Committee.

The Section decided to extend its public relations activities, and for this purpose created an interindustry committee to consist of representatives of various organizations serving specialized branches of the drug industry, such as cosmetics, wholesale druggists, chemical manufacturers, and other allied interests. The committee will broaden the statistical and factual story of the public service of the drug and chemical trades. This is a move further to develop and enlarge the work in which the Section has been engaged since some time before the Drug Trade Dinner held last March.

The Section further arranged for a committee of three to represent it in contact with the Association of Dairy, Food, and Drug Officials of the United States in its program of preparation of uniformity in state legislation that will bring the new Federal Food, Drug, and Cosmetic Act into state legislation.

In his talk on legislation, Mr. Dunn spoke at length on the Federal Food, Drug, and Cosmetic Act, giving particular attention to the Food and Drug Administration's attitude toward new drugs. He indicated clearly that he did not agree with the view of the FDA which is that new drug permits are personal rather than product. He also pointed out that the FDA did not believe that a warning statement on the label was not sufficient action on the part of a manufacturer to stop his product from being sold over the counter to the general public. He stated that this problem was still unsolved, the FDA expressing the opinion that if the manufacturer made contracts with all his distributors, in which the distributors agreed not to sell the products over the counter, this would satisfy them. Mr. Dunn advised manufacturers who had objections to the new regulations to go and see Enforcement Chief Walter G. Campbell personally in Washington prior to the public hearing on November seventeenth. Mr. Dunn pointed out that at the public hearing the consumer groups would be present and Mr. Campbell would not be able to discuss the objections of manufacturers in a frank manner. He stated that Mr. Campbell is being very conservative in all his interpretations of the law.

GOLF PRIZE WINNERS

Medalist—(low gross) Bruce Puffer, Commercial Solvents Corp.; 1st Flight—(low net) Philip M. Dinkins, American Cyanamid & Chemical Corp.; 2nd Flight—(low net) Joseph A. Huisking, Chas. L. Huisking & Company; 3rd Flight—(low net) Maurice Noble, West Wholesale Drug Company; 1st Kickers—W. W. Bower, J. E. Bernard & Co., Inc.; 2nd Kickers—J. P. Remensnyder, Heyden Chemical Corp.; 3rd Kickers—R. W. Bjork, L. Sonneborn Sons, Inc.; 4th Kickers—W. J. Weed, Niagara Alkali Company; 1st Flight—(2nd low net) L. T. Sheffield, New England Collapsible Tube Co.; 2nd Flight—(2nd low net) R. E. Dorland, Dow Chemical Company; 3rd Flight—(2nd low net) A. Burt Sauvageot, Hazel Atlas Glass Co.; 5th Kickers—H. B. Sliger, Commercial Solvents Corp.; Honest Score—Carroll Dunham Smith, Carroll Dunham Smith Pharmacal Co.

Ladies' Tournament

1st prize (low gross) Mrs. Fred. Neuberg; 2nd low net Mrs. Paul Miller.

STYPTICS

By M. A. LESSER

The last few years have witnessed added impetus to the study of the blood-coagulating mechanism and the means of hastening or increasing this vital property. As a result of this work, modern research has added several new local hemostatics to the not-too-long list of accepted styptics. Most investigators have aimed their efforts at the preparation or isolation of therapeutic agents which exert their hemostatic effects at a distance from the actual bleeding point. The study of effective local substances has not, however, been neglected. Many of the newer preparations, valuable when given hypodermically or orally, are likewise useful when applied to the actual bleeding area. Others exert their effects only when applied locally and are worthless when used any other way.

According to strict medical definition a styptic is a substance that arrests hemorrhage by means of an astringent quality. Such a definition limits the term to but a few agents. The more generally accepted meaning of the term includes any medicines or applications used to control external hemorrhages. It is from this latter interpretation that this review takes its cue.

Some styptics exert their hemostatic effects by including physiological changes, others cause chemical changes in the blood or the tissues, while a few stop the blood flow by purely mechanical means. In order to appreciate and understand the workings of these various mechanisms, some knowledge of the normal process of blood coagulation is essential. It must be emphasized that in spite of the numerous efforts made to explain the physiology of coagulation, there is much that still remains obscure, and that the accepted theories are still to be entirely proven. These theories do serve, however, as an effective basis for study and development of hemostatic drugs. The living circulating blood in the healthy blood vessels does not clot. As such it contains no solid fibrin, essential for clot formation. In normal cases, this solid forms when the blood, by any means, gets out of a vessel or when the lining of these vessels is injured. The most generally accepted theory of blood clotting, that of Howell, is aptly and briefly summed up by Blumgarten,[1] "Three factors are necessary to enable the blood to clot: calcium salts, fibrin ferment, and contact with any substance other than the walls of the vessels. The fibrin network exists in the blood dissolved in the serum. In this dissolved state it is called fibrinogen. This fibrinogen is changed to fibrin by the action of an enzyme thrombin. This enzyme exists in the blood in the form of prothrombin, which is changed into thrombin by the action of calcium salts and a substance called thrombokinase or thromboplastin. Thromboplastin is only formed during bleeding from the injured tissue, from the blood cells, and from the blood platelets." The blood clot itself consists of a network of fibrin threads in which are entangled red and white blood corpuscles, and which serves to plug the severed end of the vessel to prevent further loss of blood. Lack or lowered levels of any of the essential blood-coagulating elements lengthens the normal blood-clotting time, which is from two to six minutes (average 4½ minutes). Hemophelia and obstructive jaundice are diseases in which coagulation-time is greatly prolonged. Many other conditions may extend this interval and it is in these that the styptics find their greatest general usefulness.

The application of gauze or the like for a bleeding wound, hastens coagulation by increasing the foreign surface in contact with the blood. The use of heat also hastens this process, most probably by accelerating the chemical processes involved in clot formation. These are simple expedients, known to everyone, but many bleeding wounds require other, faster-acting agents, hence the employment of styptics.

The most generally used styptics are those of the astringent type. This includes various salts of aluminum and of iron and tannins. Silver nitrate is sometimes included in this group, but its action is more that of a caustic than an astringent. The astringent styptics act by combining with the albumins or proteins of the cells with which they come in contact and cause them to harden or coagulate. They affect not only the tissue

cells, but the blood cells as well. When too much of any of these styptics is applied to one spot, a caustic action may result due to excessive protein coagulation which destroys the tissues.

Common everyday usage rates the aluminum compounds highest. Probably every man who shaves himself owns an alum styptic pencil or block. Potassium aluminum sulfate is the chief, and often the only ingredient of these styptic preparations. Frequently however they contain a cooling agent like menthol and sometimes an anesthetic such as ethyl or propyl aminobenzoate. Titanium dioxide or the like may be added as a whitening agent. The incorporation of glycerine helps to soften the skin during application and further, by its hygroscopic action, prevents loss of water of crystallization. Specific directions for making these potash alum products have frequently appeared in the pages of this journal and need not be repeated here.[2] Chilson's, "Modern Cosmetics" also devotes a section to these items.[3] Dried or burnt alum is sometimes used as a styptic, in bleeding from the nose or after tooth extraction. It is more caustic then alum, however. Aluminum acetate, also used as a styptic, is milder than the sulfates. These aluminum compounds are slightly antiseptic, and being but little absorbed, are comparatively non-toxic.

Iron preparations, because of their color and skin staining propensities, have not the everyday popularity of the aluminum compounds. Solutions of the ferric salts are efficient styptics, solutions of ferric chloride and ferric sulfate being most widely used. Pure crystals of ferric chloride are very deliquescent and to prevent their absorbing moisture from the air they should be kept in tightly closed containers. A 20% solution, is effective on local application and finds value in the treatment of oozing from capillaries or small arterioles. The iron compound must, however, be brought into immediate contact with the bleeding point to be effective. Monsel's solution or solution of ferric subsulfate is another valuable astringent styptic. A convenient way to maintain and use the styptic action of ferric chloride is in the form of styptic cotton. The formula for making this cotton, given by Prinz[4] is as follows:

Solution of ferric chloride	80	parts by weight
Glycerine	16	" " "
Water	225	" " "
Purified Cotton	100	" " "

Mix the liquids and soak the cotton in this for one hour. Press out excess fluid and spread the cotton to dry in thin layers in a warm place, protected from dust and light. When dry, transfer to an amber-colored, well closed glass container.

Silver nitrate is listed by Cushny[5] and others as a styptic, but because of its definitely caustic and discoloring action is safe only in experienced hands. Silver nitrate has the advantage of being strongly antiseptic, but this action may be complicated by irritation, pain and corrosion. In using silver nitrate solutions as styptics, the danger of argyria, due to the silver being absorbed by the blood and deposited on the various tissues of the body, should not be overlooked. When the skin is affected it turns a dark gray due to the action of light on the silver. This discoloration cannot be removed.[6] When silver nitrate is used, a solution of common salt may be used to wash away the excess.

Other metallic salts are listed as astringent styptics. Both Chilson[3] and Goodman[7] give styptic formulas containing copper sulfate and zinc sulfate. Bismuth compounds, too, find use as local hemostatics. In their interesting article on shaving, Hollander and Casselman[8] state, "To control bleeding, we recommend the use of bismuth subgallate which acts as a styptic without causing any burning or any other sensation. It is preferable particularly because being a powder, it can be kept and applied aseptically."

Tannic acid, the most important of the tannins, has long been valued for its astringent-styptic action, as well as for its other important uses. In solution of over 10% strength tannic acid exerts an antiseptic effect. Since it is employed as a saturated aqueous solution or as the glycerite of tannic acid, both of which contain more than this percentage, the germicidal action of tannic acid is combined with its hemostatic action when used on bleeding cuts. Tannic acid is very soluble in alcohol and water and freely soluble in glycerine. Aqueous solutions of the acid are not very stable however, and the drug's rather long list of incompatabilities is not especially advantageous. Cushny points out that some people are particularly susceptible to the action of tannic acid, and that when it is applied to such individuals, induces local irritation and inflammation.

Collodion, which some people apply to cuts in the mistaken notion that it is a styptic, is used to form a protective film over wounds. It can be made a styptic preparation by the addition of tannic acid. Styptic collodion, N.F. is made by adding 16% tannic acid to flexible collodion.

Other styptics, not of the astringent type have had long-established general and medical usage. Among those not known to the public are stypticin and styptol. Stypticin (Cotarnine Chloride N.F.) prepared by oxidizing narcotine, an alkaloid of opium, is a yellow, bitter powder.[9] It is easily soluble in water and alcohol, but when used externally as a styptic it is employed pure or as a strong solution. Stypticin finds use in stopping nose-bleeding and hemorrhage following tooth extraction. Its most important use, however, is as an internal styptic and it is considered invaluable for checking uterine bleeding.[10] Styptol (cotarnine phthalate) is used for the same purposes as stypticin.

Thymol iodide is often used as a dusting powder on minor bleeding cuts, and probably does hasten clotting by exposing the blood over a larger surface. Its chief use in this connection, however, is as an antiseptic. But when thymol iodide is mixed with an equal part of alum it does form an effective styptic powder.[7] The application of antipyrine, the fever-reducing drug, checks bleeding by contracting the small blood vessels. In addition to its styptic uses, this drug also relieves

pain and acts as an antiseptic when applied to the skin or mucous membranes.[1] Trichloracetic acid is recognized as and frequently used as a local hemostatic. Because of its corrosive action it is more suitable as a caustic for the removal of warts and other skin blemishes. Murphy[11] has used trichloracetic acid to obliterate bleeding points in the nasal septum.

Epinephrine (adrenaline) rates as one of the major modern medical hemostatics. As a matter of fact, the chief therapeutic use of epinephrine is to constrict the peripheral blood vessels by local application. Though effective in bleeding from capillaries or small arteries, epinephrine does not stop hemorrhage from large blood vessels. Probably no other drug induces such complete contraction of the vessels in the part to which it is applied. Furthermore, when so applied, its effects are practically always only local. In nose bleed or operations on the nose, it is widely used as a styptic. The hemorrhage stops almost completely and the contracting action on the mucous gives a clear field during surgical procedures. Epinephrine also has proven its styptic value in hemorrhages from the ear, mouth and throat, as well as in general surgery. When used locally, aqueous solutions varying in strength from 1 in 1,000 to 1 in 15,000 are employed. To be effective as a styptic, these epinephrine solutions must be applied directly to the bleeding vessels. Even epinephrine may fail to act, if the blood washes it away before the drug has had time to exert its influence. Then, too, the bleeding may begin again when the effects of this styptic wear off, since after the initial contraction a period of secondary dilation follows. Dilute aqueous solutions of epinephrine lose their strength rapidly, this loss of activity being marked by a reddish or brownish discoloration. Many physicians store epinephrine solutions in the refrigerator to slow up this deterioration. Epinephrine is not advocated for internal, concealed hemorrhages, where a rise in the blood pressure is not desired.

Kephrine hydrochloride resembles epinephrine both in its chemical structure and its physiological action. According to the "New and Non-Official Remedies" of the A.M.A.,[12] this drug acts by constricting the blood vessels. When compared with epinephrine its action is less powerful, but more lasting. The drug is only employed locally and usually stops capillary bleeding within two or three minutes. This effect usually persists for two or three hours. One form of kephrine hydrochloride is marketed as a powder which contains 5% of the drug in tricalcium phosphate. The pure drug is a white, odorless powder, freely soluble in water and soluble in alcohol.

It has been pointed out earlier in this article that thromboplastin is essential for normal blood clotting. It has been shown that thromboplastin from every source contains the phosphated cephalin (or kephalin). The influence of thromboplastin on coagulation is due to the action of the cephalin present. Just how cephalin works is not definitely known, but according to Howell,[13] it neutralizes the effect of heparin, a constituent of the blood which in some way prevents the transformation of prothrombin into thrombin and which is also believed to be responsible for maintaining the normal fluidity of the blood. It is not surprising, therefore, to find that cephalin, or substances containing it, are used locally in the treatment of hemorrhage, especially from oozing surfaces. These preparations are also employed in treating nose bleed and in surgery. The brain is the richest source of cephalin and thrombo-plastic substances containing it are extracted from this organ, obtained from cattle. A suspension of tissue fibrinogen, obtained from lung tissue, and cephalin is also available for local use. These various extracts are usually dispensed in physiological salt solutions, though other forms are available, such as ethereal solutions. Cephalin in solution or in the solid form gradually loses its ability to shorten clotting time, which it should reduce to one-third of its original length. All these preparations should be sterile, particularly in view of the fact that they are organ extracts containing animal proteins.

More recently, a group of investigators reported that cephalin preparations from yeast, soy bean and cotton seed were also active as clotting agents, indicating that this activity is a property of certain phosphatids regardless of their source.[14] Muscle extracts, particularly those of birds, have also found value as styptic agents.[15] Extracts of other organs also show coagulation-stimulating action.[16]

Among the newer and most effective biological agents for checking bleeding are the snake venom preparations. Sterile, highly dilute solutions of these poisons, applied locally have proven valuable in many bleeding conditions. Russell's viper venom has proven effective in hemophilia, other venom solutions have proven coagulant action. This subject, however, has been more fully discussed in a previous issue of this publication and requires no further elaboration here.[17]

Pectin, which makes jelly gel, is also finding use for hastening blood clotting. These pectin preparations which may be injected and given orally, are also used locally as efficient hemostatics. Sack,[18] using a solution of apple pectin, has been successful in treating hemophilia. He also reports on the use of this solution on external hemorrhage cases, including nasal and dental bleeding. He found that the pectin always reduced abnormally high coagulation time to normal values and when applied locally, never produced undesirable effects. A proprietary pectin preparation, called "Sangostop" has received much attention in Europe as an efficient styptic agent.[19]

In 1931, Sole[20] discovered that human milk accelerates the coagulation of blood. He further discovered that the milk has this effect only when applied locally. Not only was the coagulation of human blood speeded-up, but animal blood responded as well to its application. Human milk is more effective than that of any other species tested. The principle active agent adheres to the suspended fat particles and can be separated from the milk by centrifugation. The crude

butter fat, extracted with ether and acetone is highly active and the dry residue, from which aqueous suspensions can be prepared, is also active. The coagulating ability of the original milk quickly disappears, and the active material is largely destroyed by heating to 100° C. Sole found that if human milk is applied locally as a wet tampon to the bleeding sites, it acts as an effective styptic. He reports on its clinical use in dentistry, rhinolaryngology and urology. Lindenfeld[21] believes that the active factor in human milk can serve as a substitute for blood platelets in the coagulation mechanism. Since milk does not contain prothrombin in quantities of any importance, he attributes the activity of this fluid to its cytozyme content, which simply hastens physiologic coagulation. Several cases of post-operative hemorrhage were successfully treated by applying gauze drenched with human milk.

Gum preparations have been made which act as styptics by purely mechanical blocking of the bleeding vessel. Bloch[22] reports on a preparation made from the tragacanth group marketed under the name of "Tuffon." Unlike ordinary tragacanths, Tuffon swells rapidly and when brought into contact with the blood, rapidly forms a crust-like gel strong enough to stop the hemorrhage. The crust is resorbed by the body. The preparation is said to be prepared in a sterile form for use as a styptic. An American patent for a hemostatic preparation for sealing wounds uses tragacanth gum or a gum from carob bean seed kernels.[23]

The peasants of Europe have frequently employed dilute acid solutions as styptic agents. One simple expedient for this purpose was a mixture of equal parts of water and vinegar, and this has proven effective in many cases. Roskum's[24] studies have shown that acid solutions of about pH 5 hasten blood clotting, while alkaline solutions (pH 9.2) retard it, thus verifying scientifically an empirical usage.

Though necessarily brief, this description of various styptics gives some idea of the large number of these agents that can be used to staunch the flow of blood. The fear of the loss of this vital fluid has been the dread of mankind for centuries, but the researches and efforts of the world of science have done much to eliminate this terror, even for the hemophiliac, who twenty-five years ago would probably, in nearly every case, have bled to death without any possible aid.

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For the Young Skin

(*Continued from page 545*)

pastel, light, medium, brunette and dark, and four shades of lipstick. This according to Rose Laird includes all the face tones a young face could possibly need.

Also, in her cleverly assembled "Young Skin" line, Rose Laird is catering to the young men also. There is a medicated brushless shaving cream to make shaving easy and also a medicated after shaving lotion that helps to carry on the soothing effects of the shaving cream.

Last but still an important part of good grooming, Rose Laird has not overlooked the necessity for a deodorant and has included a greaseless deodorant cream in the line.

The packages themselves are simple and appropriate in white with bright blue lettering. A blue polka-dotted ribbon on the necks of the bottles is the only decoration. The price range runs between $1.25 and $4.50. The two-ounce sizes range from $1.25 to $1.50, the four ounce from $1.50 to $2.50 and the eight-ounce from $2.50 to $4.50, the Young Skin Base Cream being about the highest priced in the line—½ oz. $1.50 and 1 oz. $2.50.

The Cooperative Way

(*Continued from page 544*)

business. And third, it is legal and recognized as a proper method of distribution as much so as, if you please, a capitalistic method of distribution. We give no discounts on any specific articles, notwithstanding what may be said otherwise. When we promise you to bill your goods at the price stated in your contracts, those goods are billed at that price. Those goods are paid for at that price. After that I think we exercise the right of any business man to carry on our own method of accounting. As in all methods of accounting, the object is to arrive at the net profits made by our business. After that once it is arrived at honestly and without any ulterior motive or any subterfuge at all, then we exercise our inherent and legal right to distribute that net profit to our member customers and our stockholder customers, all on an equal basis without reference to anybody's merchandise or any particular item that has been sold or billed by us.

Now if we are doing that, what in the name of heaven is it that is getting any manufacturer who is pursuing that policy all hot and bothered? Why is he being disturbed? I don't need to tell you that I believe that our method of distribution, our avenue of distribution for your merchandise is the smoothest, the quickest, and the fairest of any avenue of distribution that is in use in the drug industry today.

INEXPENSIVE GREASELESS

AN INVESTIGATION of esterification processes, in the writer's research laboratory, based upon the reactions between the aliphatic fatty acids and polyhydric alcohols brought to light the remarkable emulsifying properties of one of the compounds studied. This product in the crude state, created from diethylene glycol and stearic acid, had the following general composition:

Mono stearic acid ester of diethylene glycol	69%
Sodium Stearate	4%
Stearic Acid (uncombined)	27%
	100%

The product was a white to cream colored solid, of waxy but amorphous appearance, comparatively odorless, soluble in hydrocarbons, dispersable in hot water and with a melting point of about 58° C. Water dispersions of this product had a pH value of less than 7, and possessed a rather high viscosity.

Due to the property of mutual solubility in both hydrocarbons and water as well as its relatively low raw material cost, its use as an emulsifier for cosmetics was studied with especial regard to the preparation of the so-called greaseless cold creams having a raw material cost of less than 4c per pound. Several formulas which were developed are herewith stated as well as the processes for the respective preparation, for each. Some comment on the additional components included in each formula is likewise stated.

Some emulsifiers of similar composition are available in the same price range, and may also be utilized in the formulas given below.

These formulas should therefore be of extreme interest to those manufacturers who cater to the low price field where a price of $14.00 per gross/1 lb. jars is common. The composition of the various formulae are as follows:

1.	Emulsifier (as above)	50 lbs.
	Paraffin (125-27 A.M.P.)	75 "
	Petrolatum (white)	45 "
	Mineral Oil (light tech. white)	5 gals.
	Water	27 "
	Potassium Carbonate	12 oz.

2.	Emulsifier (as above)	11	parts by weight
	Petrolatum (white)	8	" "
	Paraffin (125-27 A.M.P.	6	" "
	Mineral Oil (light technical, white)	20	" "
	Water	75	" "
	Borax	1	" "

3.	Emulsifier (as above)	8	parts by weight
	Mineral Oil (light technical, white)	3	" "
	Paraffin (125-27 A.M.P.)	15	" "
	Petrolatum (white)	7	" "
	Stearic Acid (3 X)	1	" "
	Borax	2	" "
	Water	100	" "

The processes or mode of preparation for each of the aforementioned formulas is as follows:

1. The emulsifying agent, paraffin, petrolatum and mineral oil are all heated together in a tin-lined copper kettle fitted with a steam jacket and suitable slow speed agitation. The temperature should not exceed 90° C. When the various components have melted, they should be stirred till clear and the mixture uniform. The water, heated to 90° C. in another kettle with the potassium carbonate dissolved therein, is mixed with the oil solution by adding the latter to the aqueous alkaline solution and agitating slowly. The emulsion is then slowly agitated until just cool enough to pour.
2. In this formula, the hydrocarbon and alkaline water solutions are prepared as before but with this exception—the oil and wax solution, heated to 90° C. has added to it the aqueous alkaline solution which has been heated to boiling. The same agitation, etc., as in the preceding directions should be followed.
3. This formula is treated identically the same as the preceding formula No. 2.

Let us now examine these formulas from the standpoint of why the indicated components were selected and the role that each plays in the final product. With the exception of the last formula, No. 3, the same general composition exists in all. The function of the emulsifier is to serve both as a bodying agent and an emulsifier to properly combine the aqueous and hydrocarbon parts of the formulas. Due to its incomplete

COLD CREAMS

By CHARLES S. GLICKMAN

esterification, a small amount of additional alkali is added to saponify the unreacted stearic acid. Since the use of a large amount of high viscosity oil would result in too high priced a product, a low viscosity oil together with petrolatum and paraffin are used in combination for the purpose of supplying oily constituents as well as body to the finished product. The last formula, No. 3, uses a small amount of added stearic acid for bodying and emulsification, since the amount of wax, petrolatum, oil and emulsifier, is too low to result in a finished product of the requisite firmness if this small addition is not made.

The relative raw material costs for each of the three indicated formulae is as follows:-

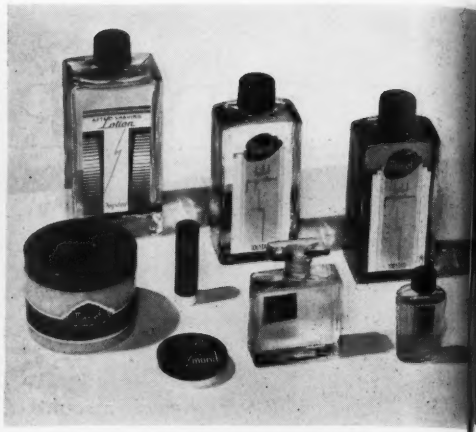
No. 1.....3 7/10c per pound
No. 2.....3 c " "
No. 3.....2 c " "

These figures are based upon current raw material quotations derived from standard sources. In further carrying out the purpose of inexpensive manufacture, the procedure known to the trade as "topping" should be resorted to. When these creams are filled into the jar, not more than ¾ of the contents should be so filled, and the cream gently swirled in the container so as to leave a continuous film up to the rim. The remaining part of the contents is then filled. The jars are not immediately capped as a small amount of moisture is liable to gather on the underside of the cap or liner. The jars are best allowed to cool by covering them, after filling, with the cardboard inserts found in the reshipper cartons and letting them stand for several hours. In this way they set with a smooth and even "top" of high gloss. When cold they may be capped for shipment.

These creams can also be colored, by means of appropriate "permissible" oil soluble dyes dissolved in the hydrocarbon solution before emulsification, so as to form the so-called lemon, strawberry or cucumber creams when used in conjunction with the proper perfume. It will be found that these creams, upon initial application to the skin, give the effect of a real cold cream, but upon applied friction or rubbing, this effect is dispelled and a vanishing cream "feel" substituted.

YARDLEY

MARX & KUSHNER

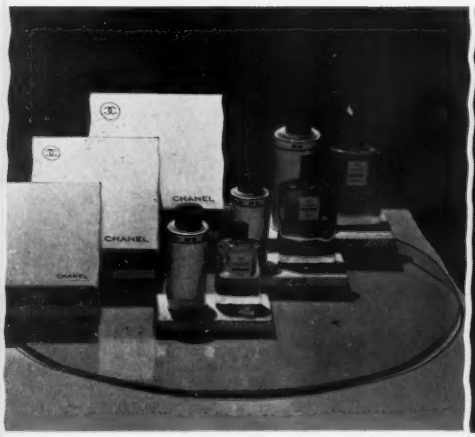


C. I. TOGSTAD CO.

REVLON

J. B. WILLIAMS CO.

FINGER-DENT



CHANEL

LENTHERIC

LE SONIER

STANCO, INC.

PRIMROSE HOUSE

KATHLEEN MARY QUINLAN

YARDLEY

Yardley has designed a charming container for face powder. The deluxe powder bowl is of ivory-toned molded material with a screw cover. It is decorated with a gilt scroll design and topped with the honeybee motif. Inside is a removable tray with a hole in the center. A puff fits into a depression in this tray preventing the powder from getting out of control.

MARX & KUSHNER

The Quadrille package created by Marx & Kushner, holds four bottles of perfume in Gardenia, Jasmin, Lilac and Lavender odors. The bottles are firmly held in a gold finish stand.

C. I. TOGSTAD CO.

The C. I. Togstand Co. of Kokomo, Indiana, has completed an entire restyling of its extensive line of cosmetics and perfumes, marketed under the trade name "Mariet."

STANCO, INC.

Stanco, Inc. has introduced Vita Nujol, containing approximately 400 international units vitamin B_1, per ounce of mineral oil. It is described as combining the lubricating effect of the Nujol treatment with the gentle stimulating action of Vitamin B_1.

SITICIDE CO.

The Siticide Co., manufacturers of "Siticide," a formula developed for the destruction of the germs of Scabies or parasitic itch, has adopted a new package for its products, supplied by the Owens-Illinois Glass Co.

REVLON

"Her Excellency" is a late addition to the Revlon Royal Family of gift sets. A good-looking, practical set made of genuine leather in glazed lizard grain—maroon or black—it contains two shades of nail enamel, oily remover, cuticle lotion, manicure scissors, triple-cut steel professional file, steel pusher, nail white pencil, orange stick and emery boards.

J. B. WILLIAMS CO.

The J. B. Williams Co. has introduced a new style note for 1938. The popularly priced sets have been dressed up with special emphasis on trim. The new attractive design is featured in blue, gold and green.

FINGER-DENT

"Finger-Dent," the new finger tooth brush and gum massager, comes packed in a Kimble Glass slip-cap vial, presenting a clean, attractive package which shows the article to best advantage.

PRIMROSE HOUSE

Chiffon Cologne featured by Primrose House is a double-strength cologne with refreshing qualities plus an enchanting perfume. The handsome bottle comes in a pink and bronze gift package.

LANCHERE, INC.

Lanchere, Inc. of Chicago, presents Cologne in six floral odors, repackaged in new "Mascu-Line" bottles. Clever use of the label space results in a package of excellent display value, made attractive through the use of foil labels in two colors against a gold background. The bottle is topped with a harmonizing cap of brushed bronze.

CHANEL

Chanel's new sets contain Chanel's sparkling, zippy Eau de Cologne and swansdown-soft talcum powder in sleek bottle—each perfumed with No. 5 or Gardenia, in three different sizes.

LENTHERIC

Lentheric's No. 408 holiday set contains a four oz. flacon of Bouquet Lentheric, perfume in a petit flacon, soap, sachet basket, and face powder. Available in Tweed, Miracle or Shanghai.

LE SONIER, INC.

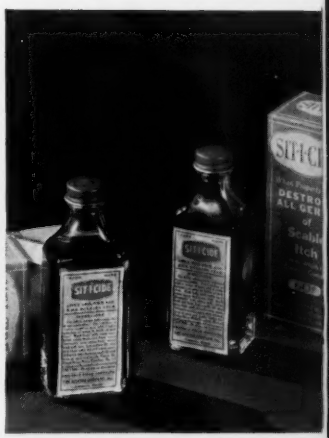
Le Sonier, Inc., offers a novelty toilet water doll. The toilet water which is available in six popular floral odors has a doll with a long wide skirt for a stopper. The dolls are individually boxed and come with six different colored skirts and facial expressions.

KATHLEEN MARY QUINLAN

Kathleen Mary Quinlan's Organdy Cologne combines a fine Cologne with the gay, spirited magnetic fragrance of Organdy perfume. It is a pleasing contributor to bodily freshness and daintiness, handsomely bottled and Christmas wrapped.

BARBARA BATES

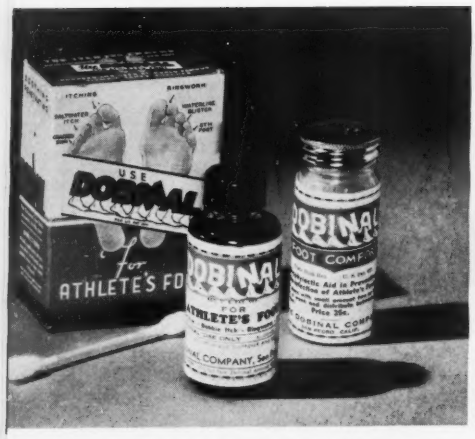
Barbara Bates has designed a nail polish shade called Envy Green—a soft, bayberry green, for those who may be bored with the usual red shades. It is lovely with matching colors, chartreuse, bronze shades, etc. The latest addition to the line is the Grape shade, a companion piece to Grape Frappe, but without its silvery sheen.



SITICIDE CO.

LANCHERE, INC.

BARBARA BATES

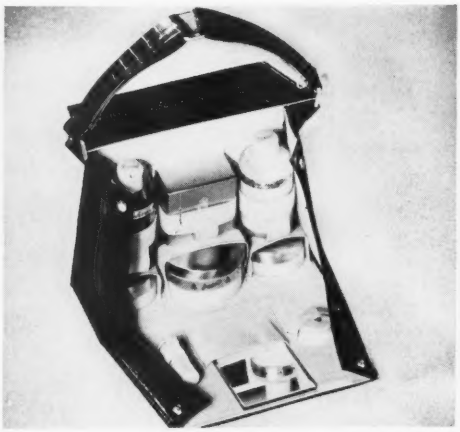


DOBINAL CO.

MAISON JEURELLE

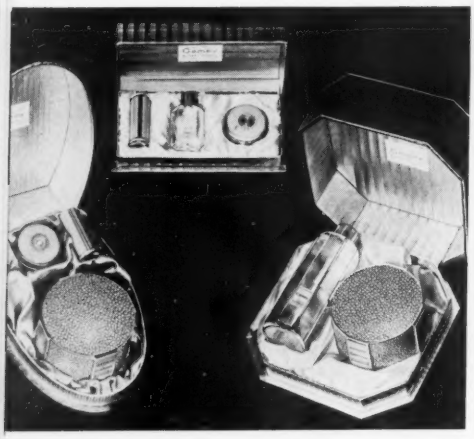
BOURJOIS

HELENA RUBINSTEIN



JAQUET

BRIT-TEX



RICHARD HUDNUT

TAYLOR CHEMICAL CO.

VAPO-CRESOLENE

L'ORLE

PARFUMERIE DE RAYMOND

IMPERIAL FORMULA

DOBINAL CO.

The Dobinal Co. of San Pedro, Calif., is marketing "Dobinal," a preparation for athlete's foot. The package also contains Dobinal Foot Comfort, a powder, and an applicator of toothpick and cotton with which to apply Dobinal.

MAISON JEURELLE

Maison Jeurelle's perfume cluster consists of five perfume odors in a "bunch," packaged in an attractive box.

BOURJOIS

Bourjois' Evening in Paris gift set contains Evening in Paris perfume, face powder, and a single loose powder vanity.

L'ORLE

Parfum L'Orle Inc. presents the "Parfum-Air" conditioner, a refreshing air-deodorant which helps to destroy offensive odors in the home, offices, shops, etc. It is available in a variety of fragrances.

PARFUMS CHARBERT

"Gentlemen's Locker Kit" by Charbert consists of a genuine pigskin case containing after shaving lotion, hair tonic, brushless shaving cream, talcum powder, comb, hair brush and mirror. It also has several utility pockets.

HELENA RUBINSTEIN

Perfumes and a vanity set are effectively combined by Helena Rubinstein in a chic copper and wood gift box for Christmas. The slim golden jewelled costume vanity has a matching lipstick. In the twin dram bottles etched with town and country scenes are the Town and Country perfumes.

JAQUET

Jaquet's cosmetic kit looks like a smart handbag. It has a wide swinging top handle, a "stand-alone" bottom and it is covered in a polished alligator grain fabric—plum wine, green, brown, black and tan. The preparations are compactly arranged in separate compartments.

BRIT-TEX

Available as a special deal to manicurists, this molded Brit-tex finger bowl display is helping to promote the sale of Brit-tex nail and cuticle cream. The base is black, the bowl of white glass, with a molded cream jar.

PARFUMERIE DE RAYMOND

Parfumerie de Raymond is introducing a new style jewel case the outside of which is covered in Chinese red riplet. It contains three acquaintance flacons of Parfumerie de Raymond's popular odors, chiefly Mimzy, Pinx and Deviltry.

F. MILLOT

F. Millot is showing an attractive traveling set consisting of a sturdy 2¼-oz. bottle of Crepe de Chine perfume, together with an atomizer which is made to fit the top of the original bottle. This little traveling ensemble comes encased in a good-looking gift box.

RICHARD HUDNUT

Three gift combinations in the Gemey fragrance by Richard Hudnut—an appealing gift set of three make-up items, face powder, rouge and lipstick; Gemey perfume, rouge and lipstick, assembled in an inexpensive gift package, and a combination of face powder and toilet water, in an attractive gift box.

TAYLOR CHEMICAL CO.

The Taylor Chemical Co. of Hollywood, Calif., has introduced a new type of brittle nail treatment called "Nailflex." This preparation helps relieve the hard, brittle condition of fingernails that is so common among the great majority of women. It is described as a concentrated, quick-acting solution which does not contain bases of wax, creams or pastes.

VAPO-CRESOLENE

The new model of Vapo-Cresolene's electric vaporizer has a molded housing. Its long-lasting lustre, easy-to-keep-clean surface and rich, black color, give it stimulating sales appeal.

IMPERIAL FORMULA

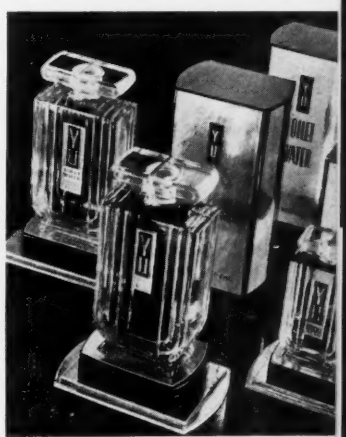
Imperial Formula's perfume Regal Splendor has a top note of true jasmin and is in its element in the company of sables, evening gowns and music.

HARRIET HUBBARD AYER

Harriet Hubbard Ayer's perfume Yu, is a rich, vivid, spicy odor, with a decidedly romantic note. Yu is also available in toilet water and bath powder, all sumptuously packaged in gold and Ayer Rose lacquer, with a note of black.

PARFUMS CHARBERT

F. MILLOT

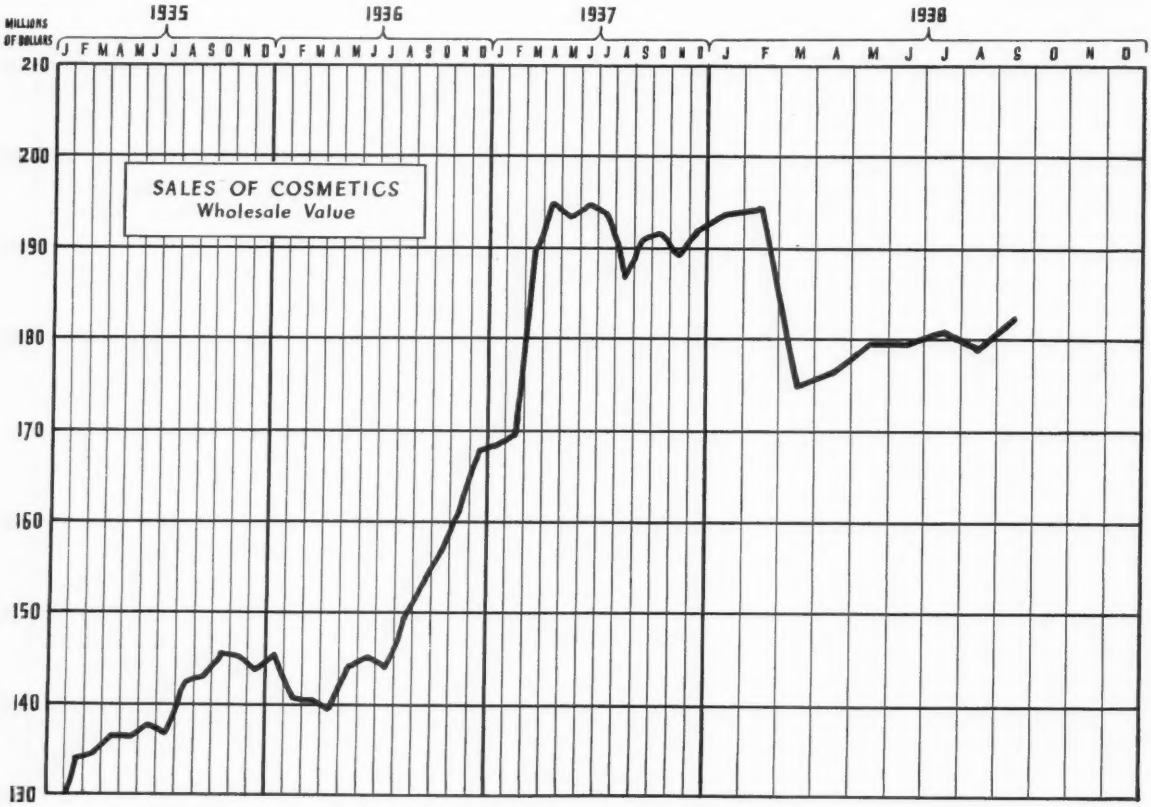


HARRIET HUBBARD AYER

MERCHANDISING NEWS

THE COSMETIC TREND: Sales reports for the first weeks of the present season generally indicate an improvement over the first half of the year. Warm weather items had a short revival during the middle of October which, however, did not trouble buyers very much as store assortments are less seasonal this year than usual. The outlook is definitely better and even the more pessimistic buyers are now talking of record sales for the coming Christmas.

Some buyers have advanced their delivery dates for cruise merchandise, which looks as if they were contemplating large cruise promotions immediately before


MILLIONS OF DOLLARS
1935
1936
1937
1938
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D
210
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130
SALES OF COSMETICS
Wholesale Value

The wholesale value of toilet preparations reached a value of $182,640,000 for the year ended September 1938, compared with $178,930,000 for twelve months ending August 1938 and $190,907,000 for September 1937. The September 1938 figure indicates an increase of 2.1 per cent. over the trend for the preceding month and a decline of 4.3 per cent. from the same month of 1937.

the start of the Christmas sales season. Support to this policy is given by heavy cruise bookings early in November and the efforts of the Southern resorts to build up a larger middle class trade.

There is still no indication of a real preference for perfume scents. Noteworthy is that more large sizes are selling and that the better grades are in demand for the smaller units.

Lipsticks and other make-up items continue in the forefront of popular interest. New shades and new methods find wide attention and they are heavily pushed by all stores. While the lighter shades predominate there is an apparent desire for off shades with an appeal to the more discriminating customers.

Buyers expect a large demand for vanities and compacts for Christmas gifts and will give them good counter support. Much attention is also paid to make-up kits. Customers differentiate more than ever between day, evening, indoor and outdoor make-up. Many multiple sales are made as a result and the kit offers the best solution.

Label claims and directions are being fine combed in advertising and publicity offices for necessary adjustments. As a result many new words and word combinations will be introduced. Buyers do not expect any difficulty from this source. The sales staff will quickly become accustomed to the new nomenclature while counter cards and advertising will educate the customers.

TO THE SYNDICATE STORES? Chaotic is the word for the electric shaver market. Among the latest entrants in the field are Gillette with a $20 razor and Elgin with one for $1.49. Any day now we expect to wake up and find an electric razor in the syndicate stores priced at 30 cents—10 cents for the cord, 10 cents for the motor and 10 cents for the shaving head. When that time comes, of course, there'll still be plenty of room at the top. The opportunities for pricing over $20 are practically limitless, and a sure way to get the world to beat a mouse trap to your door.

NEW DAY COSMETIC ADVERTISING: Well in the van, it seems to us, is Germaine Monteil's copy in October "Vogue." With cosmetic advertising copy under close scrutiny by regulatory bodies and with many time-worn claims apparently under the ban, a new approach is being sought which will continue advertising effectiveness without violating the letter or the spirit of the Wheeler-Lea amendment. This is going to be a real pleasure if the Germaine Monteil copy is any indication and that company is to be congratulated on this splendid advertising.

Under the headline, "Beauty is not a gift, it is a habit," the copy goes on to say that, "For the days, the weeks, the months . . . to protect you against the years . . . the entire scientific collection of cosmetics by America's gifted designer, Germaine Monteil. Developed by twentieth century cosmetic chemistry . . . keyed to the tempo of modern living . . . used by distinguished women the world over . . . Presented at America's smartest shops."

LIQUID DENTIFRICE: Proctor & Gamble's "Teel" is apparently the first of the *modern* liquid dentifrices. There have been liquid dentifrices in the past but, so far as we know, none which have survived. "Teel" depends upon one of the newer wetting agents and detergents, and thus has no similarity to the older dentifrices to which we refer aside from the fact that it too is liquid. The statement has been made that it depends upon a new principle, "low surface tension." This is no new principle as applied to dentifrices for eight or nine years ago these pages carried the pros and cons of surface tension in dentifrices in a discussion which lasted over several months.

THE SALES VOLUME of Zonite and allied products has shown an increase of more than 50 per cent. during the past two years, according to Stuart D. Cowan of Cowan & Dengler, in the first of a series of letters describing Zonite merchandising policies during that period. He goes on to say that five major uses for Zonite have been emphasized—three of which are established uses and two of which are undeveloped ones.

One new appeal was onion breath, tobacco breath. "Though this appeal may be limited to less than one-third of the users of the product, it was given full emphasis because of its news value. Consumer response to newspaper publicity and point-of-sale promotion had proven that Zonite's ability to kill onion and tobacco breath would create a favorable reaction among old users and active interest among new users."

The dandruff appeal was developed "because of our intense interest in the size of the dandruff market and our eagerness to cash in on the fact that millions of consumers were dissatisfied with the results of many so-called dandruff remedies. . . It may interest you to know that five to ten times as much Zonite is used for a single dandruff treatment as for any other purpose with the exception of feminine hygiene—that the dandruff use is a weekly use whereas other uses, such as first aid, occur at infrequent intervals—that the dandruff appeal sells Zonite to all men and women, of all ages and types." (The current Zonite-Barcelona combination deal is evidence of a continued sales drive on the dandruff appeal).

"As of 1935," Mr. Cowan continues, "a large proportion of the Zonite sold was used for feminine hygiene. For sound reasons the Zonite management had decided that it would be unwise to continue dominant consumer advertising on this use. . . This use, which had been accepted by a large number of consumers and must therefore be maintained and stimulated, is given adequate emphasis . . . not too prominent, but sure to receive attention."

YARDLEY'S TRAVELER: The traditional Yardley wooden shaving bowl has a partner at last, a sleek modern plastic job, called the Traveler shaving bowl, introduced this season as a gift item and retailing at $1.00. The soap itself is in a small wooden container. This is boxed within an ivory-toned plastic case with a dark green plastic screw cover. The carton is made of a stippled, brown boxboard, decorated with travel stickers.

TOOTH PASTE SALES: Weekly sales of tooth paste total 34,263 tubes in 252 or 6.5 per cent. of New York's 3856 retail drug stores, according to a survey made by the *New York Times*. Sales throughout the city followed practically the same pattern, on large sizes, 106 per store per week in high income neighborhoods, 78 in medium neighborhoods and 29 in low neighborhoods. On medium sizes, weekly sales were respectively 52, 49 and 31; on ten cent sizes 17, 32 and 36.

Brand leadership varied among the eight brands surveyed on different sizes and in different types of stores. The Squibb large size led in high and medium income stores with 25.1 per cent. and 23.3 per cent. of all sales. Colgate, which was second in these two categories, led with 29.2 per cent. of sales in the lowest income stores. On medium sizes, Colgate led in all three categories, with 25.1, 26.6 and 32.6 per cent. Squibb was second in all three. On ten cent sizes, Colgate led in all three categories again, with 35.5, 30.1 and 35 per cent. Squibb was again second.

On large sizes, Ipana was third in all three categories, and Pepsodent fourth. On medium sizes, Phillips was third in high and low income stores, and fourth in medium income stores. Pepsodent third in high income stores and fourth in medium and low income stores. Ipana was third in all three groups on ten cent sales, and Pepsodent was fourth. The other brands surveyed were Listerine, Forhans and Kolynos.

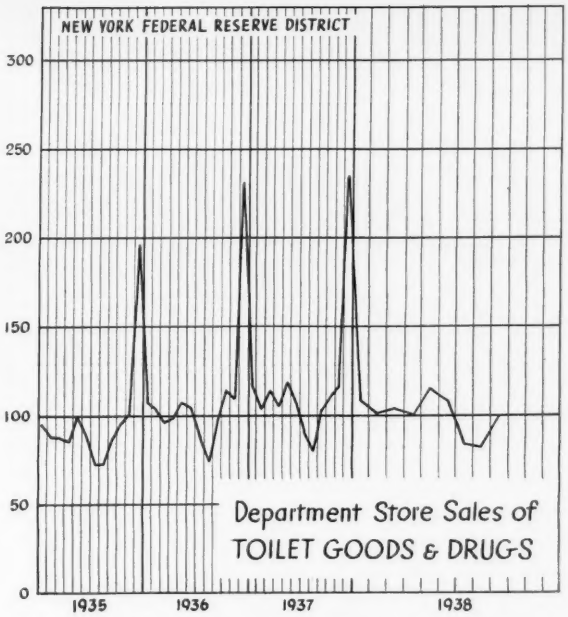
N.A.R.D. MARKETING CRITICISM: The N.A.R.D. at its last convention made rather vehement comments upon several conventional marketing practices. It vigorously opposed cooperative advertising as now maintained by most large drug manufacturers and pledged aggressive efforts to abate a practice "which amounts to a substantial price rebate or price differential available only to chains and large proprietors." It recommended passage of a law making quantity limits on loss leaders illegal which would force any advertiser of a bargain to have enough stock to supply any and all demands. It opposed sampling the medical profession with standard size packages holding that many of these are resold to cut price outlets and it severely criticized the A. C. Barnes Co. for what were alleged to be unfair methods of packaging Argyrol claiming that it entails additional expense to the pharmacists. It criticized that company for belittling the integrity of the pharmacists who are responsible for the number of crystals in the bottle and for making its products available to the grocery trade.

WHEN BETTER COMPACTS ARE BUILT: Don't look now, but Buick is getting a few compacts around, presumably in places where they will do the most good, advertising the fact that "Buick's the Beauty." The compact is for loose powder, quite a handsome chrome and lacquer job with the Buick crest on the cover and lettered on the mirror inside, the words "B——t——B——, too——" get it? We thought at first that maybe the girls could get one by tearing a radiator cap off a Buick and sending it in with three cents in stamps and fifty words on why "B——t——B——," but we have been informed that you have to be a Buick type and hang around places where Buick types congregate, in which case you are quite likely to have one handed to you as a favor.

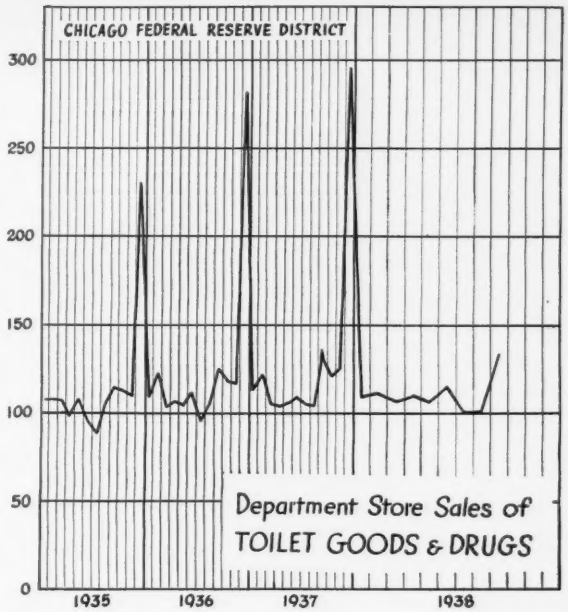
DRUG STORE SALES: Chain drug stores secured 23.6 per cent. of the chain-independent sales total in the first six months of 1938, according to Arthur C. Nielsen, president, A. C. Nielsen Co. This compares with 24.2 per cent. in the first six months of 1937, and 24.9 per cent. in the first six months of 1936. According to the same source, grocery stores loom larger as drug store competitors with over half selling laxatives and seltzer-aspirin, 35 per cent. selling cold remedies, 34 per cent. dentifrices, 23 per cent. shaving creams, 10-18 per cent. selling oral antiseptics, tooth brushes, hand lotions, etc.

EPHEDRINE SELLS: Rel's new advertising emphasizing ephedrine and its Chinese origin would seem to indicate, if anything, that Rel considers public consciousness and acceptance of ephedrine to be so good that Rel's ephedrine content deserves to be emphasized. Rel says, "Chinese discovered ephedrine and we have now improved it by one extra component to make an improved prescription."

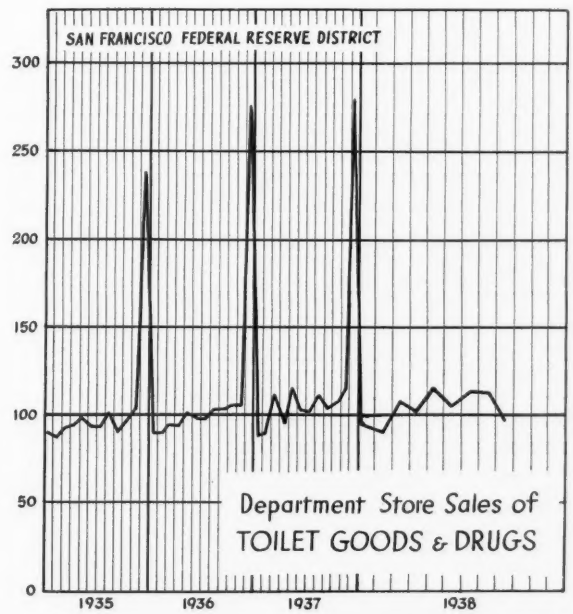
This move of Rel's is in line with what most of the nasal spray and inhalant manufacturers have already done, i.e., emphasize the ephedrine content. That's quite a triumph for a word comparatively hard to pronounce and to remember, and which, just a few years ago was unfamiliar to the lay public.



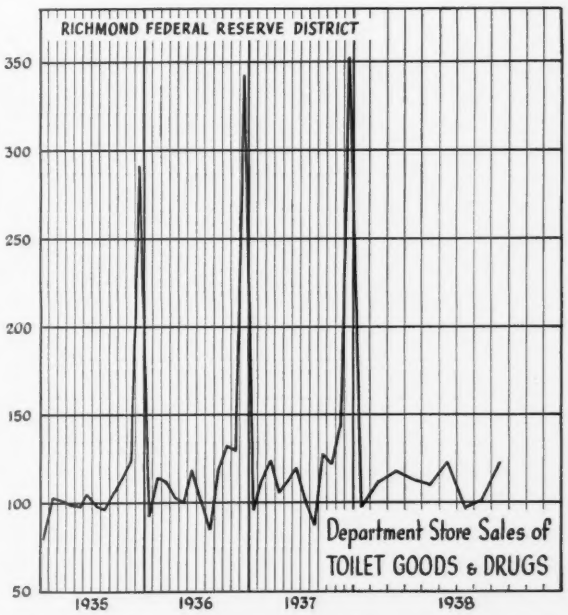
Sales of toilet articles and drug sundries by department stores in the New York Federal Reserve District for September 1938 were 4.1 per cent. less than in the same month of 1938. The corresponding (unadjusted) index numbers are 99.4 for September 1938, 82.2 for August 1938, and 103.6 for September 1937.



Sales of toilet goods and drugs by department stores in the Chicago Federal Reserve District in September 1938 were 2.3 per cent. less than in the same month of 1937. The corresponding unadjusted index numbers were 133.6 for September 1938, 101.4 for August 1938, and 136.7 for September 1937.



September 1938 department store sales of toilet articles and drug sundries compared with the same month of 1937 were one per cent. less in Los Angeles, 23 per cent. less in San Francisco, 4 per cent. greater in the stores of the Pacific Northwest, and averaged 7 per cent. less in the whole San Francisco Federal Reserve District. The unadjusted index for the district was 96.9 for September 1938, 112.6 for August 1938, and 104.2 for September 1937.



As compared with the same month of the preceding year, sales of toilet articles and preparations for September 1938 in Baltimore were 8 per cent. less and in Washington were at the same level. For the whole Richmond Federal Reserve District, department store sales averaged 4 per cent. less while the unadjusted index was 122.7, compared with 101.0 for August 1938 and 127.8 for September 1937.

STEP OUT IN FRONT

Style up to SELL!

PACKAGE your Brands to step ahead of the Parade - to be FIRST at the point of purchase! . . . .

★ STYLE! Originality! in CONTAINER design and decoration set the pace for quickened SALES. .

★ "NATIONAL" sets an individual style in Container-making. Its SERVICE is resourceful, enthusiastic and capable.

Step Ahead! **with "NATIONAL"**

NATIONAL CAN CORPORATION

SUBSIDIARY OF McKEESPORT TIN PLATE CORPORATION

EXECUTIVE OFFICES • 110 EAST 42nd STREET • NEW YORK CITY

Sales Offices and Plants • NEW YORK CITY • BALTIMORE • MASPETH, N.Y. • CHICAGO • BOSTON • DETROIT • HAMILTON, OHIO

PACKAGING NOTES

FROM OLD ENGLAND: The products of The Herb Farm at Sevenoaks, in Seal, Kent, which have been sold in a little shop on North Audley Street in London for a great many years, have now for the first time been brought to America. Creams, astringents, lotions and bath preparations said to be made from marigold, ripe peaches, rose petals, purple heather, wild thyme, green moss and many other delectable-sounding herbs, are delightfully scented and packaged in the daintiest and quaintest boxes, bottles and jars. For the home there are pot-pourris filled with lovely dried flowers which will keep a bit of the scent of the English country-side in a room or linen closet for a long time. Sweet lavender is sold in bulk for sachets, linen chests or lingerie cases, and there are lovely pomander balls—dried oranges stuffed with cloves—which fill the air with their pungent, spicy scent. There are even herbal flavoring, vinegars, teas and jellies included in the line.

The entire cosmetic line has been repackaged for sale in this country and the packages are outstanding for their quaintness and charm. The jars are milk white with massive covers which set over the jars giving them a distinct old apothecary touch. Combined with the apothecary shop marketing approach and the old English countryside background, the whole effect makes an interesting contribution to the contemporary cosmetic scene.

"POUR-CLEAN" BOTTLE WITH ACID RESISTANT CLOSURE: Merck & Co. Inc. is now using a transparent plastic closure with a liner of impregnated glass cloth for nitric acid. This closure eliminates the glass stopper, with its plaster of paris covering, and makes the package easy to open. The closure has been awarded second prize in the scientific group of the annual Modern Plastics competition. The "Pour-clean" bottle is also being used for many other liquid chemicals.

HERE'S WHAT WE MEAN BY *Salespackages*

NEW IDEA!

The label's on the SIDE. . . Why? For greater convenience and space saving in medicine cabinets. The container is short and squat to fit better in low-shelf cabinets. It's a real *Sales*package.

NEW CONVENIENCE!

Look at the unique design of this container for brilliantine. . . Easy to hold when the hands are slippery. Easy to pour. This container *"thinks"* of the user—and the customer thinks of the container when he's ready for more. Another *Sales*package.

NEW BEAUTY!

We call it the "Sunburst" line, consisting of four flaconettes ⅛, ¼, ½-oz. and a 3-oz. size. Here beauty helps sell many products that must have "atmosphere."

OWENS-ILLINOIS

"First in Glass"

Purple—once the royal prerogative of a titled few, while not widely employed in package design, does possess certain characteristics which bespeak quality and subtle elegance...Illustrated above are a few of the design possibilities of this majestic color and its "off-shades." Though not the easiest of colors to reproduce, it does suggest a possibility to those who would like to have their packages "distinctive"...Continental's package designers will explore every possibility which might have a bearing on the salability of your container whether it be color in design, or the more practical considerations of size, shape or economy of manufacture. Why not let them study your needs? No obligation.

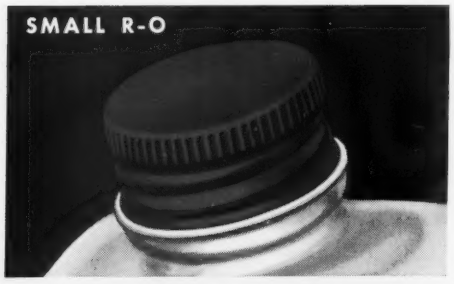
ONE OF A SERIES DEVOTED TO THE USE OF COLOR IN PACKAGING DESIGN. COPYRIGHTED, 1938.

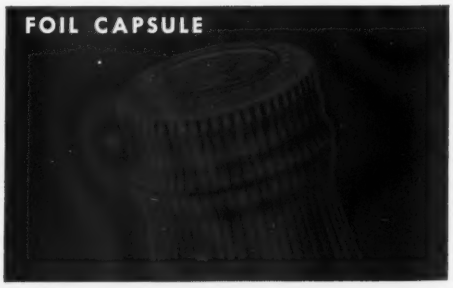
Continental Can Company

IN A WAY, Alseco Seals are like a dining room table. They accommodate unexpected company, which isn't true of ready-made screw caps.

It's like this! When you get, as you must from time to time, ready-made caps and containers whose dimensions don't match up exactly, you're headed for trouble, evaporation and leakage. With Alseco Seals that can't happen because they automatically compensate for variances in glass finish. They come to you unthreaded and are seated on the containers with just the right amount of liner compression. Then the threads are *Rolled-On*, shaped to the exact contour of the glass. There can be no misfits, either too loose or too snug.

That's why Alseco Seals are more efficient. Just how *much* more efficient is something we shall be glad to show you by running comparative tests right in your own plant. ALUMINUM SEAL COMPANY, 1323 Third Avenue, New Kensington, Pa.





TAILOR-MADE

Alseco Seals

Trade Mark Reg. ALSECO SEALS U. S. Pat. Off

SEAL TIGHTER · OPEN EASIER

LEGAL ANGLES

By S. L. MAYHAM

FAIR TRADE DECISION

The decision of Judge Vorsanger in New Jersey state District Court has overturned a section of that state's Fair Trade Act. For those who believe in price maintenance by contract and think that is and should be the basis of the Fair Trade laws, the decision is nothing to worry about. For those who oppose selling goods below cost, regardless of contracts, it is a set back, although perhaps a minor one. The learned judge held that the "loss leader" paragraph in the act was unconstitutional and held, to quote the decision, "the most enlightened judicial policy is to let the people manage their business in their own way." A lot of politico-business men have been saying the same thing with varying degrees of emphasis ever since 1932, and the only really startling phenomenon is that these same people are the very ones who are most disturbed about the Jersey decision. It seems they want to manage when they want to and rule when they don't. The decision is to be appealed of course. Best legal minds differ strongly as to the possible success of the appeal. However, price maintenance, as it was sought for years and years, is not disturbed by the decision. Price contracts are still allowed. Only price control on loss leaders is upset by Judge Vorsanger.

LOOPHOLE IN MARKING ACT

The new act on marking of imported articles of merchandise is believed by many to contain a serious loophole and in a place where loopholes are the least to be expected, namely, the penalty provisions. It is held by some, although there has been no test in the Courts, that the Act permits the entry of unmarked or illegally marked articles if a ten per cent. penalty is paid. A good many importers, especially of cheap Japanese and German wares might think this a cheap price to pay for getting these goods on the market, and some authorities believe that they would be strictly within the law. However, there are other merchandising laws to catch them, notably the unfair competition enactments of the last two or three years. There is talk of an amendment which would prevent the release of goods even if the penalty were paid and this would seem to be the best way out of the situation. Also, the quickest way, since Congress meets in January and a test case in the Courts, if carried through to the final authority, would take the better part of four years for final determination,—perhaps longer if dilatory tactics were resorted to.

CHAINS AND THE PUBLIC

I'm inclined to agree with Mr. Nichols, managing director of the Institute of Distribution, who in a recent speech, asserted that the public was against the new Patman chain store tax proposals. Of course, my observation has been limited, but I have yet to discuss the matter with a housewife who would like to see chain stores wiped out or their services on price seriously curtailed. The independent merchants' organizations should bear this in mind in any campaign which they may wage for the adoption of the Patman measure or similar state enactments. They may be in the right but if the great purchasing public doesn't agree with them, the righteousness of their cause will not avail them very much. I have no public opinion on the matter but I might have developed one if either side had placed its arguments before me in telling fashion. One of the great chain organizations is now about to engage in just this educational effort. Other methods, and particularly those of the anti-chain store groups in the past, will hardly prevail against organized facts and figures. Have these antis any figures of their own? If so, it were the part of wisdom to produce them.

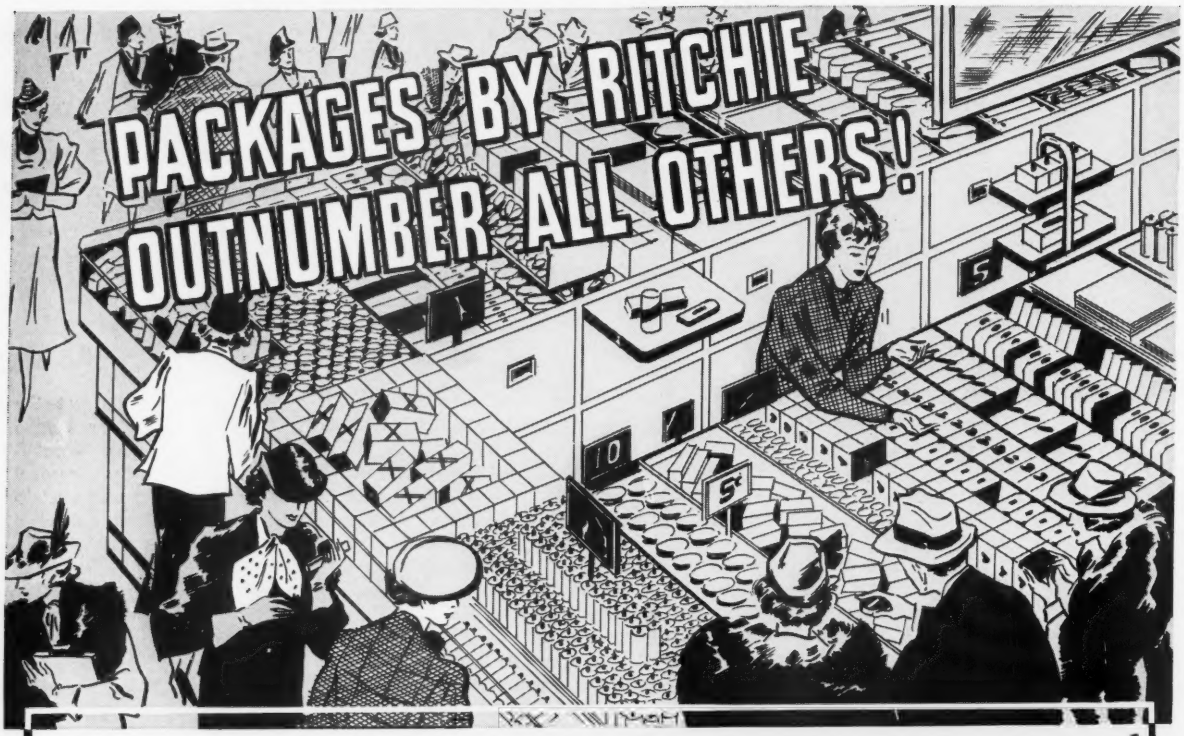
A NEW ECONOMIC LAW?

Lew Hahn of the National Retail Dry Goods' Association has ennunciated what he believes to be a new economic law to the effect that reducing costs of production inevitably increases the cost of distribution. Mr. Hahn says that while production may be of the "mass" variety, retailing inevitably must be an individual transaction: He presents a number of ingenious arguments and hypothetical examples to support this contention. There may be something in it, but I should much prefer to see some effort made to reduce distribution costs through discontinuing the highly uneconomic methods which have plagued drug and cosmetic manufacturers in their efforts to distribute through Mr. Hahn's group and other outlets for, lo, these many years. The stores demand too much, get too much, and now, through Mr. Hahn, protest too much that theirs is not the fault and that costs must rise through the operations of a hastily devised "law" of economics. If the stores had to bear these increased costs and not hand them over to the manufacturers, I think they would quite quickly find all the holes in Mr. Hahn's "law" that even so weak a student of economics as myself can drive trucks through.

OLD LAW AND NEW

People who don't like the new Food, Drug and Cosmetic Act have called my attention quite sharply and, in one case, sarcastically to the fact that under the Wiley law, it was quite possible to fine Dr. Massengill $16,800 for his part in the sad sulfanilamide tragedy, and further, that this represented a comparatively light penalty. Well, that's so. Some things could be done under the old law, and, perhaps, better than under the new one. However, there wasn't any control over magazine, radio and billboard advertising under the old law. Nor was there anything to prevent labelling a cosmetic as a remedy for all the ills of encroaching age. Nor was there any provision for checking someone with a "new drug" before he had a chance to do incalculable

Where Products Have to Sell Themselves—



"You pay your money and take your choice" at the syndicate store cosmetic counter. No specially trained salesgirls there—no demonstrations—no tested sales talks. *At the majority of such counters you'll find more Packages by Ritchie than any other kind*—and for the same reasons that you find leading products in practically *every* field sold in Ritchie packages!

The same careful consideration of retail outlets—of buying habits—of consumer preferences—that makes Packages by Ritchie so successful in *one* field, is behind a Package by Ritchie in *any* field. The same manufacturing advantages, too—volume production, special machinery, improved methods developed during 72 years of packaging experience. If you want your product to look as distinctive and desirable *to your consumers* as it does to you, dress it up with a *Package that Sells* — by Ritchie.

Set-up Paper Boxes — Fibre Cans

W. C. RITCHIE AND COMPANY • 8847 BALTIMORE AVENUE • CHICAGO

NEW YORK DETROIT CINCINNATI LOS ANGELES ST. LOUIS ST. PAUL DENVER

harm. You had to wait, as in the case of sulfanilamide, until the harm was done. I'm quite ready to admit that the new law only gives authority to proceed where the old one was supposed to compel action by the enforcement authorities. But we all know how much action was compelled and how much chance there would be of compelling it under the new law by changing a few "mays" to "shalls." I don't like everything about the new law but I do hold that, given honest and reasonably vigorous enforcement such as we may expect to have, it is a good deal more protection to the public, and in the end to the manufacturer and dealer, than the old law could ever have been.

STATE COSMETIC AND DRUG ACTS

Practically all of the State Legislatures will be in session during 1939. From them we may expect a tremendous volume of bills, many of which will affect drugs and cosmetics. With a new Federal law in effect, it is reasonable to expect that most of the states will bring in laws designed to bring their old "Wiley pattern" statutes up to date. If this were all that could be anticipated, the coming sessions would be productive of a great deal of good and not very much harm. However, the start made by several states, notably Maine and Louisiana, leads to the inescapable conclusion that revision and modernization of Food and Drug Acts, will be the excuse for attempting to put through thinly disguised revenue measures in the guise of regulatory statutes. Every state may and should regulate traffic in drugs and cosmetics to take care of intra-state transactions beyond the power of the Federal authorities and to implement the National Administration in its own cases. But the public will be very ill advised to permit these laws to be made the excuse for sales taxation of a vicious and discriminatory sort. These bills, along with others which come out of the State Legislatures, will have to be watched, not only by the manufacturers, but by the public and especially by the distributors. For it is the distributor who in most cases will take the rap and the public which will ultimately pay. Manufacturers and their organizations would do well to spend a good part of their legislative budgets proving just that very thing to the consumers. Remember, only three states will not have regular legislative sessions next year and these three may have special sessions, and that every one of them needs money.

REGULATIONS—AND HOW!

The proposed regulations for the enforcement of the new Federal Food, Drug and Cosmetic Act have been issued by the Department of Agriculture. In a careful explanatory note, the Secretary states that he was under no compulsion to issue them in a hurry and especially none to grant the great boon of public hearings, but that he will consent to listening to objections voiced publicly on November 17 or presented in writing before November 24. I judge from the tone that he will listen politely as one does when he is prepared not to be sold. I hope I'm wrong. Discussion of these regulations in detail would take a great deal more white paper than the Editor is likely to give me for these outpourings. I'll give a few of them a brief word or two, but before that, it seems in order to remark that the affected industries have worked as hard as they could to help the Department get this new bill, that since its passage they have cooperated as fully as they could to get its enforcement started, that they have depended upon the Department to show the same measure of courtesy and co-operation, and, unfortunately, that they seem to have been disappointed in their trust in the Department's sense of fairness. This law is going to need the co-operation of the industry if its enforcement is to be a success. The public needs efficient enforcement and the industry is for it. Much can be lost if suggestions on the part of the industry, when they would aid enforcement and public protection, are treated cavalierly by those who are to enforce the law. Banging heads is hardly the way to start the new law on a prosperous and happy tour of duty. And, to me at least, some of the new regulations seem decidedly of the head banging nature.

NAMES AND ADDRESSES

The industry believes that the public is entitled to know who makes or who sponsors a product. So it endorses that part of the law which compells this information to appear on every label and on every package excepting those too small to be properly so marked. It does not believe that the public will be any better protected by having this information appear on every face of the product or on every label which some dealer may decide to show as a "front label" on his shelves. I have just examined the label of a well-known brand of shaving cream. It is a completely informative label so far as manufacturer's name and address is concerned. But it won't pass the regulations which the Department has just issued. To do that the name and address would have to appear on all four sides of the carton and on two faces of the tube. To me, that requirement is unnecessary, illogical, and designed to render the whole enforcement procedure ludicrous. That it, incidentally, will spoil the appearance of a very handsome and honest package is, I suppose, a small matter. Since I began to study these regulations, I have examined at least a hundred packages. Only two are legally marked according to the regulations, and I mean solely with reference to the requirement that the name and address be placed on them in certain particular ways.

NET CONTENTS

The industry recognizes the need for proper marking of net contents on the labels of packaged drugs and cosmetics. It has not raised a single objection to these provisions of the law. The new regulations, however, provide for no size exemptions in the case of drugs under these provisions. No matter how small, the package will have to be marked and if necessary, everything else will have to be left off to so mark it. Cosmetics get off a little better for here there is an exemption of less than one-half ounce averdupois or less than one-eighth fluid ounce. This catches every package of any consequence and exempts none. It is apparently purposely designed to take in the dram bottle of perfume. I don't know how many bottles of this size the Department has examined or just how it expects this requirement to be worked in practice. Maybe, we just shouldn't try to give the public perfumes in drams and creams and powders in small and cheap sizes. I have found no small containers properly marked under this regulation in my examination of packages. Foods get off better. There the exemption is one-half fluid ounce. Remember that the food is to be swallowed and the cosmetic to be applied externally, but, of course, that has nothing to do with contents marking.

SPACE FOR LABELING

Under the regulations, you may not design a harmonious and pleasing looking package if that means that you have to crowd the parts required by law to be on the label. You may not stress your trade name or trade-mark or your design if that "limits" the space available for other legally required information. The Department doesn't define the word "limit" so I can't say what it may mean. If your own message interferes with the space by "limiting" it, just leave that off. You'll have a legal package then in the opinion of the Department, which is not concerned whether you can sell it or not. The industry wants to label its packages in accordance with the law, but it would, I am told, like a better regulation on this "limiting" business, or, at least, would like to be informed what "limiting" means.

NAMES OF PRODUCTS

There is a pretty stiff regulation on naming drugs which are recognized in an official compendium. Unless the drug, as offered, is identical in every respect with the official drug, the name must differentiate it completely from that drug. That means, in my opinion, renaming a whole host of products which are in current use and sale and are quite properly so used and sold. There are no exceptions to this rule in the regulations excepting that differences in strength and purity may be explained on the label. In that case, the label must show *all differences.*

Case Study of a RAZOR CASE

Laid down for this razor case were these requirements: luxury in appearance . . . a minimum of weight . . . a surface practically impervious to scratching or chipping.

For a leading manufacturer, Scovill fabricated this case from aluminum, finished it in gold-colored Indurite*, and fitted a polished metal mirror inside. It will soon gleam on the counters of America's drug and department stores; and better still, gleam on bathroom shelves after months of soap, water, and abuse.

Hardness and resistance to wear are electrically produced with a transparent oxide surface. Moisture and heat-resistant, often more durable than plating, Indurited surfaces are available in natural aluminum, gold, and a wide range of other colors. The finish has a satiny feel.

The Majority of Brands in Leading Stores Have Scovill-Made Containers

(In nine of the country's leading department stores, 72.8% of the cosmetics are made by Scovill customers.)

Defy Sales Resistance with Wear Resistance

Vanity cases, lipstick containers, and closures can now glow with warm, exciting colors that defy sales-resistance. Why not get in touch with Scovill?

Our engineering facilities can tie in at the stage of a mere idea, design, or working model. Often we have helped customers make mechanical improvements, at the same time saving in construction by design refinements and facilities for mass production.

More information is yours for the asking, from 69 Mill Street, Waterbury, Connecticut, or any of the offices listed below.

*Indurite is the Scovill Manufacturing Company trade name for Alumilite finish.

SCOVILL
Masters of Metal

SCOVILL MANUFACTURING COMPANY

Drug and Cosmetic Container Division

69 Mill Street ★ Waterbury, Connecticut

Boston, Providence, New York, Philadelphia, Lynchburg, Va., Syracuse, Pittsburgh, Detroit, Chicago, Cincinnati, San Francisco, Los Angeles. IN CANADA: 334 King St., East, Toronto, Ontario

Regulations for the New Drug Act

General Regulation

(a) The definitions and interpretations of terms contained in section 201 of the Act shall be applicable also to such terms when used in regulations promulgated under the Act.

(b) The provisions of regulations promulgated under the Act with respect to the doing of any act shall be applicable also to the causing of such act to be done.

(The caption of each of the following regulations designates the section of the Act under which the regulation is proposed.)

Section 201 (m)

Labeling includes all written, printed, or graphic matter accompanying an article at any time while such article is in interstate commerce or held for sale after shipment in interstate commerce.

Section 201 (n)

Among facts material in the light of a representation is the fact, when it exists, of a substantial difference of opinion as to the truth of such representation, among experts qualified by scientific training and experience to evaluate the truth of such representation.

Section 201 (p)

A drug may be a new drug by reason of:

(1) the newness for drug use of any substance which composes such drug, in whole or in part, whether it be an active substance or a menstruum, excipient, carrier, coating, or other component;

(2) the newness for drug use of a combination of two or more substances, none of which is a new drug;

(3) the newness for drug use of the proportion of a substance in a combination, even though such combination containing such substance in other proportion is not a new drug;

(4) the newness of use of such drug in diagnosing, curing, mitigating, treating, or preventing a disease, or to affect a structure or function of the body, even though such drug is not a new drug when used in another disease or to affect another structure or function of the body; or

(5) the newness of a dosage, or method or duration of administration or application, or other condition of use prescribed, recommended, or suggested in the labeling of such drug, even though such drug when used in other dosage, or other method or duration of administration or application, or different condition, is not a new drug.

Section 301 (h)

In case of the giving of a guaranty or undertaking referred to in section 303 (c) (2) or (3) of the Act, each person signing such guaranty or undertaking shall be considered to have given it.

Section 303 (c) (2)

(a) A guaranty or undertaking referred to in section 303 (c) (2) of the Act may be:

(1) limited to a specific shipment or delivery of an article, in which case it may be a part of or attached to the invoice or bill of sale covering such shipment or delivery; or

(2) general and continuing, in which case, in its application to any shipment or delivery of an article, it shall be considered to have been given at the date such article was shipped or delivered by the person who gives the guaranty or undertaking.

(b) The following are valid forms of guaranty or undertaking under section 303 (c) (2) of the Act:

(1) (Limited Form for use on invoice or bill of sale).

(Name of person giving the guaranty or undertaking) hereby guarantees that no article listed herein is adulterated or misbranded within the meaning of the Federal Food, Drug, and Cosmetic Act, or is an article which may not, under the provisions of section 404 or 505 of the Act, be introduced into interstate commerce.

(Signature and post-office address of person giving the guaranty or undertaking).

(2) (General and Continuing Form).

The article comprising each shipment or delivery hereafter made by (name of person giving the guaranty or undertaking) to, or on the order of, (name and postoffice address of person to whom the guaranty or undertaking is given) is hereby guaranteed, as of the date of such shipment or delivery, to be, on such date, not adulterated or misbranded within the meaning of the Federal Food, Drug, and Cosmetic Act, and not an article which may not, under the provisions of section 404 or 505 of the Act, be introduced into interstate commerce.

(Signature and post-office address of person giving the guaranty or undertaking).

(c) The application of a guaranty or undertaking referred to in section 303 (c) (2) of the Act to any shipment or delivery of an article shall expire when such article, after shipment or delivery by the person who gave such guaranty or undertaking, becomes adulterated or misbranded within the meaning of the Act, or becomes an article which may not, under the provisions of section 404 or 505 of the Act, be introduced into interstate commerce.

Section 303 (c) (3)

(a) A guaranty or undertaking referred to in section 303 (c) (3) of the Act shall state that the shipment or other lot of coal-tar color covered thereby was manufactured by a signer thereof. It may be a part of or attached to the invoice or bill of sale covering such color. If such shipment or lot is from a foreign manufacturer, such guaranty or undertaking shall be signed by such manufacturer and by an agent of such manufacturer who resides in the United States.

(b) The following are valid forms of guaranty or undertaking under section 303 (c) (3) of the Act:

(1) (For domestic manufacturers).

(Name of manufacturer) hereby guarantees that all coal-tar colors listed herein were manufactured by him, and are from batches certified in accordance with the applicable regulations promulgated by the Secretary of Agriculture under the Federal Food, Drug, and Cosmetic Act.

(Signature and post-office address of manufacturer).

(2) (For foreign manufacturers).

(Names of manufacturer and agent) hereby guarantee that all coal-tar colors listed herein were manufactured by (name of manufacturer), and are from batches certified in accordance with the applicable regulations promulgated by the Secretary of Agriculture under the Federal Food, Drug, and Cosmetic Act.

(Signature and post-office address of manufacturer).

(Signature and post-office address of agent).

(c) For the purposes of a guaranty or undertaking under section 303 (c) (3) of the Act the manufacturer of a shipment or other lot of a coal-tar color is the person who packaged such color.

(d) No representation or suggestion that an article is guaranteed under the Act shall be made in labeling.

Section 305

(a) Presentation of views under section 305 of the Act shall be private and informal. The views presented shall be confined to matters relevant to the contemplated proceeding. Such views may be presented by letter or in person by the person to whom the notice was given, or by a representative chosen by him for the purpose. In case such person holds a guaranty or undertaking referred to in section 303 (c) (2) or (3) of the Act applicable to the article on which such notice was based, such guaranty or undertaking or a verified copy thereof, shall be made a part of such presentation of views.

DROPPER FITTINGS

FOR EVERY USE ●

Our dropping parts and fitments will give your products greater consumer acceptance because every part has been carefully fitted and inspected to make doubly sure that your package functions properly during its use. We carry a complete line of patented non-frictional dropping parts. Single and double shell metal caps and standard black and brown plastic caps are carried in stock. Plastic caps in other colors can be furnished without delay on special orders. Pippettes of any length or shape, and rubber nipples in every color are available for immediate delivery. Write for samples and prices.

● *NEW. For products requiring oil-resistant parts, we now have available Neoprene synthetic rubber nipples. Neoprene, when in contact with any oil base solution, does not swell as will ordinary rubber. Write for further information on this new development in nipples.*

GLASS PRODUCTS CO — GLASSWARE

VINELAND ● NEW JERSEY

ATLANTA, GA.
Warren M. Curry
2895 Peachtree St.

NEW YORK, N. Y.
L. A. Barber
1123 Broadway Room 301

ST. LOUIS, MO.
Woodson Barnhart
200 So. Commercial Street

NAIL ENAMEL

"Pack up your troubles
In our old tin can and smile
The smile worth-while"

New words set to an old tune.

One batch of nail enamel badly matched and off shade, or changing color as it stands, **poor mixing, errors in formulation, viscosity off,** etc., are all costly to you and may result in the loss of customers; ultimately ruin your business.

It will pay you dividends to entrust your business to a reliable source of supply, and let them eliminate your troubles.

Think carefully—prove this statement to yourself.

Your best bet is

THE DURLIN CORPORATION

The Most Experienced Producers of Nail Enamel

11 WEST 42nd ST. **NEW YORK, N. Y.**

(b) Upon request, seasonably made, by the person to whom a notice appointing a time and place for the presentation of views under section 305 of the Act has been given, or by his representative, such time or place, or both such time and place, may be changed if the request states reasonable grounds therefor. Such request shall be addressed to the office of the Food and Drug Administration which issued the notice.

Section 501 (b)

(a) The name by which a drug is designated shall be clearly distinguishing and differentiating from any name recognized in an official compendium unless such drug complies in identity and all other respects except strength, quality, and purity, with the specifications set forth in an official compendium under such recognized name.

(b) A drug defined in an official compendium is a drug which complies in identity and all other respects, except strength, quality, and purity, with the specifications set forth for a drug in an official compendium.

(c) A statement that a drug differs in strength, quality, or purity from the standard of strength, quality, or purity set forth for such drug in an official compendium shall show all the respects in which such drug so differs, and the extent of each such difference.

Section 502 (a)

A drug or device may be misbranded by reason (among other reasons) of the making of a false or misleading representation in the labeling thereof with respect to another drug or device or a food or cosmetic.

Section 502 (b) (1)

(a) If the drug or device is not manufactured by the person whose name is stated on the label, the name shall be qualified by the words "Packed by—" or "—Packer" in case the name is that of the packer, or by "Distributed by—," "Packed for—," or "—Distributor" in case the name is that of the distributor. In case the packer or distributor of a drug is also the grower thereof, the name of such packer or distributor may be qualified by additional words showing such fact.

(b) The requirement that the label shall contain the name and place of business of the manufacturer, packer, or distributor shall not be considered to relieve any drug or device from the requirement that its label shall not be misleading in any particular.

(c) Where a person manufactures, packs, or distributes a drug or device at a place other than his principal place of business, the label may state the principal place of business in lieu of the actual place where each package of such drug or device was manufactured or packed or is to be distributed, if such statement is not misleading in any particular.

Section 502 (b) (2)

(a) (1) The statement of the quantity of the contents of a package of a drug shall reveal the quantity of such drug in the package, exclusive of wrappers and other material packed with such drug.

(2) The statement shall be expressed in the terms of weight, measure, numerical count, or a combination of numerical count and weight or measure, which are generally used by consumers and users of such drug to express quantity thereof and which accurate information as to such quantity. But if no general usage in expressing accurate information as to the quantity of such drug exists among consumers and users thereof, the statement of the quantity of a drug which is not in tablet, capsule, ampul, or other unit form shall be in terms of weight if the drug is solid, semisolid, or viscous, or in terms of measure if the drug is liquid; the statement of the quantity of a drug which is in such unit form shall be in terms of the numerical count of such units, supplemented, when necessary to give accurate information as to the quantity of such drug in the package, by such statement (in such terms, manner, and form as are not misleading) of the weight or measure of such units, or of the quantity of each active ingredient in each such unit, as will give such information.

(3) The statement of the quantity of a device shall be expressed in terms of numerical count.

(b) A statement of weight shall be in terms of the avoirdupois pound, ounce, and grain, or of the kilogram, gram, and milligram. A statement of liquid measure shall be in terms of the United States gallon of 231 cubic inches and quart, pint, fluid ounce, and fluidram subdivisions thereof, or of the liter, milliliter, or cubic centimeter, and shall express the volume at 68° Fahrenheit (20° Centigrade).

(c) Statements of the quantity of a drug shall contain only such fractions as are generally used in expressing the quantity of such drug. A common fraction shall be reduced to its lowest terms; a decimal fraction shall not be carried out to more than three places, except in the case of a statement of the quantity of an active ingredient in a unit of a drug.

(d) (1) Unless made in accordance with the provisions of subdivision (2) of this paragraph, a statement of the quantity of a drug, in the terms of weight or measure applicable to such drug under the provisions of paragraph (a) (2) of this regulation, shall express the number of the largest unit specified in paragraph (b) of this regulation which is contained in the package (for example, the statement on the label of a package which contains one pint of a drug shall be "1 pint", and not "16 fluid ounces"). Where such number is a whole number and a fraction, there may be substituted for the fraction its equivalent in smaller units, if any smaller is specified in such paragraph (b) (for example, 1¼ pounds may be expressed as "1 pound 4 ounces"). The stated number of any unit which is smaller than the largest unit (specified in such paragraph (b) contained in the package shall not equal or exceed the number of such smaller units in the next larger unit so specified (for example, instead of "1 quart 16 fluid ounces" the statement shall be "1½ quarts" or "1 quart 1 pint").

(2) In the case of a drug with respect to which there exists an established custom of stating the quantity of the contents as a fraction of a unit, which unit is larger than the quantity contained in the package, or as units smaller than the largest unit contained therein, the statement may be made in accordance with such custom if it is informative to consumers.

(e) The statement of the quantity of a drug or device shall express the minimum quantity, or the average quantity, of the contents of the packages. If the statement is not so qualified as to show definitely that the quantity expressed is the minimum quantity, the statement, except in the case of ampuls, shall be considered to express the average quantity. The statement of the quantity of a drug in ampuls shall be considered to express the minimum quantity.

(f) Where the statement expresses the minimum quantity, no variation below the stated minimum shall be permitted except variations below the stated weight or measure of a drug caused by ordinary and customary exposure, after such drug is introduced into interstate commerce, to conditions which unavoidably result in decreased weight or measure. Variations above the stated minimum shall not be unreasonably large. In the case of a liquid drug in ampuls the variation above the stated measure shall comply with the excess volume prescribed by the National Formulary for filling of ampuls.

(g) Where the statement does not express the minimum quantity—

(1) variations from the stated weight or measure of a drug shall be permitted when caused by ordinary and customary exposure, after such drug is introduced into interstate commerce, to conditions which u n a v o i d a b l y result in change of weight or measure;

(2) variations from the stated weight, measure, or numerical count of a drug or device shall be permitted when caused by unavoidable deviations in weighing, measuring, or counting the contents of individual packages which occur in good packing practice.

But under subdivision (2) of this paragraph variations shall not be permitted to such extent that the average of the quantities in the package comprising a shipment or other lot of the drug or device is below the quantity stated, and no unreasonable shortage in any package shall be permitted, even though overages in other packages in

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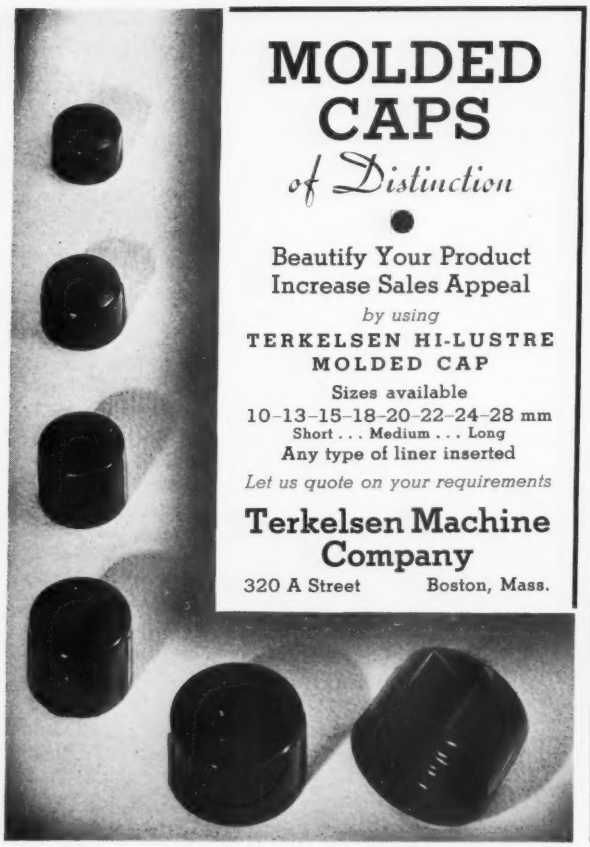

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the same shipment or lot compensate for such shortage.

(h) A drug or device shall be exempt from compliance with the requirements of clause (2) of section 502 (b) of the Act if—

(1) the statement of the quantity of the contents of the package, together with all other words, statements, and information required by or under authority of the Act to appear on the label of such drug or device, cannot, because of insufficient label space, be so placed on the label as to comply with the requirements of section 502 (c) of the Act and regulations promulgated thereunder; or

(2) the quantity of the contents of the package, as expressed in terms of numerical count in compliance with paragraph (a) (2) or (3) of this regulation, is less than six units, and such units can be easily counted without opening the package.

Section 502 (c)

(a) (1) All words, statements, and other information required by or under authority of the Act to appear on the label shall appear on the part or panel thereof which is presented or displayed under customary conditions of sale or distribution.

(2) If two or more such parts or panels are so designed as to render them likely to be so presented or displayed, each such part or panel shall bear all such words, statements, and information.

(3) If the size of such part or panel, as limited only by the area of the package presented to view when such part or panel is directly viewed, is insufficient for all such words, statements, and information to appear thereon with such conspicuousness and in such terms as to comply with the requirements of section 502 (c) of the Act, such part or panel shall be so extended around the package as to be sufficient for such purpose.

(b) The conspicuousness of a word, statement, or other information required by or under authority of the Act to appear on the label may fail to comply with the requirements of section 502 (c) of the Act by reason (among other reasons) of—

(1) the position on the label of such word, statement, or information;

(2) the limiting of label space for such word, statement, or information through the use of such space for any word, statement, design, or device which is not required by or under authority of the Act to appear on the label; or

(3) the limiting of label space for such word, statement, or information through the use of such space to give materially greater conspicuousness to any other word, statement, or information.

(c) No exemption depending on insufficiency of label space, as prescribed in regulations promulgated under section 502 (b) (2) or (e) (2) of the Act, shall apply if such insufficiency is caused by—

(1) the use of label space for any word, statement, design, or device which is not required by or under authority of the Act to appear on the label; or

(2) the use of label space to give greater conspicuousness to any word, statement, or other information than is required by section 502 (c) of the Act.

(d) If any part of the labeling is in a foreign language, all words, statements, and other information required by or under the authority of the Act to appear on the label or labelling shall appear thereon in both the English language and the foreign language.

Section 502 (d)

(a) (1) The name of a substance or derivative required by or under authority of section 502 (d) of the Act to be borne on the label of a drug shall be the name by which such substance or derivative is designated in such section 502 (d) or regulations promulgated thereunder.

(2) A statement on the label of a drug of the name of a constituent, which constituent is a chemical derivative of a substance named in section 502 (d) of the Act, shall show the substance from which such constituent is derived and that such constituent is a derivative thereof.

(b) (1) If the drug is in tablet, capsule, ampul, or other unit form, the statement of the quantity of such substance or derivative contained therein shall express the weight or measure of such substance or derivative in each such unit. If the drug is not in such unit form the statement shall express the weight or measure of such substance or derivative in a specified unit of weight or measure of the drug. Such statement shall be in terms which are informative to the ordinary consumer and user of the drug.

(2) The statement of the percentage of such substance or derivative contained in a drug shall express the percentage by weight; except that, if both the substance or derivative and the drug are liquid, the statement may express the percentage by volume at 68° Fahrenheit (20° Centigrade), but in such case the statement shall be so qualified as to show definitely that the percentage is expressed by volume.

(c) The names, quantities, and percentages of all such substances and derivatives, in juxtaposition with the statement "Warning—May be habit forming," shall be so placed on the label as to precede the names of other constituents of the drug, if any, which appear thereon.

(d) A drug shall not be considered to be misbranded under section 502 (d) of the Act by reason of failure of its label to bear the statement "Warning—May be habit forming," if such drug is not suitable for internal use and is distributed and sold exclusively for such external use as involves no possibility of habit formation.

Section 502 (e) (2)

(a) (1) The name of an ingredient, substance, derivative, or preparation required by section 502 (e) (2) of the Act to be borne on the label of a drug shall be the name thereof which is listed in such section 502 (e) (2), or, of not so listed, shall be a specific name and not a collective name. But if an ingredient complies with the specifications set forth for an article in an official compendium, and contains no such listed substance or any derivative or preparation thereof, such ingredient may be designated on the label of such drug by the common or usual name under which such specifications are so set forth.

(2) An abbreviation or chemical formula shall not be considered to be a common or usual name. The name "acetophenetidin" shall be considered to be the same as the name "acetphenetidin"; "aminopyrine" the same as "amidopyrine." The name "alcohol," without qualification, means ethyl alcohol.

(b) (1) A derivative or preparation of a substance named in section 502 (e) (2) of the Act is an article which is derived or prepared from such substance by any method, including actual or theoretical chemical action.

(2) A statement on the label of a drug of the name of a constituent thereof, which constituent is a derivative or preparation of a substance named in section 502 (e) (2) of the Act, shall show the substance from which such constituent is derived or prepared and that such constituent is a derivative or preparation thereof.

(c) (1) If the drug is in tablet, capsule, ampul or other unit form, the statement of the quantity or proportion of a substance, derivative, or preparation contained therein shall express the weight or measure of such substance, derivative, or preparation in each such unit. If the drug is not in such unit form the statement shall express the weight or measure of such substance, derivative, or preparation in a specified unit of weight or measure of the drug, or the percentage of such substance, derivative, or preparation in such drug. Such statement shall be in terms which are informative to the ordinary consumer and user of the drug.

(2) A statement of the percentage of a substance, derivative, or preparation shall express the percentage by weight; except that, if both the substance, derivative, or preparation and the drug containing it are liquid, the statement may express the percentage by volume at 68° Fahrenheit (20° Centigrade), but in such case the statement shall be so qualified as to show definitely that the percentage is expressed by volume.

(d) The names and quantities or proportions of substances, derivatives, and

preparations (including the name of any kind of alcohol and the quantity and proportion thereof) required by section 502 (e) (2) of the Act to appear on the label, shall be so placed as to precede the names of other constituents of the drug, if any, which appear thereon, except the names required to appear thereon by section 502 (d) of the Act and regulations promulgated thereunder.

(e) A label of a drug may be misleading by reason (among other reasons) of—

(1) the order in which the names of ingredients, substances, derivatives, or preparations appear thereon, or the relative prominence otherwise given such names; or

(2) its failure to reveal the proportion of, or other fact with respect to, an ingredient, substance, derivative, or preparation, when such proportion or other fact is material in the light of the representation that such ingredient, substance, derivative, or preparation is a constituent of such drug.

(f) (1) A drug shall be exempt from the requirements of clause (2) of section 502 (e) of the Act if all words, statements, and other information required by or under authority of the Act to appear on the label of such drug, cannot, because of insufficient label space, be so placed on the label as to comply with the requirements of section 502 (e) of the Act and regulations promulgated thereunder. But such exemption shall be on the condition that the exemption with respect to stating the quantity of the contents, as prescribed by regulation (h) (1) promulgated under section 502 (b) (2) of the Act, shall first have been applied, and on the further condition that, if the package is of such size that sufficient label space is available to state legibly thereon all the information required by such clause (2), such information shall be so stated as prominently as practicable, even though the statement is not of such conspicuousness as to render it likely to be read by the ordinary individual under customary conditions of purchase.

(2) A drug shall be exempt from the requirements of clause (2) of section 502 (e) of the Act with respect to the alkaloids atropine, hyoscine, or hyoscyamine contained in such drug, if such alkaloid is contained therein as a constituent of belladonna, hyoscyamus, scopola, stramonium, or other plant material, or any preparation thereof, which was used as an ingredient of such drug, and no practical and accurate method of analysis exists for the quantitative determination of each such alkaloid in such ingredient. But such exemption shall be on the condition that the label of such drug shall state the quantity or proportion of total alkaloids contained therein as constituents of such ingredient.

Section 502 (f) (1)

(a) The labeling of a drug or device shall include directions which are adequate for the use of such drug or device in all conditions for which it is prescribed, recommended, or suggested in its labeling, or in its advertising disseminated or sponsored by or on behalf of its manufacturer or packer, and in such other conditions, if any there be, for which such drug or device is commonly used.

(b) Directions for use may be inadequate by reason (among other reasons) of omission, in whole or in part, or incorrect specification of—

(1) any directions required by paragraph (a) to this regulation to be included in the labeling;

(2) quantity of dose (including quantities for persons of different ages and different physical conditions);

(3) frequency of administration or application;

(4) duration of administration or application;

(5) time of administration or application (in relation to time of meals, time of onset of symptoms, or other time factor);

(6) route or method of administration or application; or

(7) preparation for use (shaking, dilution, adjustment of temperature, or other manipulation or process).

(c) A shipment or other lot of a drug or device shall be exempt from compliance with the requirements of clause (1) of section 502 (f) of the Act—

(1) with respect to directions for common uses, adequate directions for which are known by the ordinary individual;

(2) if the label of such drug or device bears the statement "FOR PROFESSIONAL USE ONLY," and all representations or suggestions contained in the labeling thereof with respect to the conditions for which such drug or device is to be used appear only in such medical terms as are not likely to be understood by the ordinary individual, and if such shipment or lot is delivered for use exclusively by, or on the prescription of, physicians, dentists, or veterinarians licensed by law to administer or apply such drug or device; but such exemption shall expire when such shipment or lot, or any part thereof, is offered or sold or otherwise disposed of for any use other than by or on the prescription of such a physician, dentist, or veterinarian, except such use as renders the article not a drug or device within the meaning of the definitions of drug and device in section 201 (g) and (h) of the Act; or

(3) if the label of such drug or device bears the statement "FOR MANUFACTURING USE ONLY," and the labeling thereof contains no representation or suggestion with respect to the effect of such drug or device, and if such shipment or lot is delivered for use exclusively in the manufacture of another drug or device; but such exemption shall expire when such shipment or lot, or any part thereof, is offered or sold or otherwise disposed of for any use other than in such manufacture, except such use as renders the article not a drug or device within the meaning of the definitions of drug and device in section 201 (g) and (h) of the Act.

Section 503 (a)

(a) Except as provided by paragraphs (b) and (c) of this regulation, a shipment or other lot of a drug or device which is, in accordance with the practice of the trade, to be processed, labeled, or repacked in substantial quantity at an establishment other than that where originally processed or packed, shall be exempt, during the time of introduction into and movement in interstate commerce and the time of holding in such establishment, from compliance with the labeling and packaging requirements of sections 501 (b) and 502 (b), (d), (e), (f), and (g) of the Act if—

(1) the person who introduced such shipment or lot into interstate commerce is the operator of the establishment where such drug or device is to be processed, labeled, or repacked; or

(2) in case such person is not such operator, such shipment or lot is delivered to such establishment under a written agreement, signed by and containing the post-office addresses of such person and such operator, and containing such specifications for the processing, labeling, or repacking, as the case may be, of such drug or device in such establishment as will insure, if such specifications are followed, that such drug or device will not be adulterated or misbranded within the meaning of the Act upon completion of such processing, labeling, or repacking. Such person and such operator shall each keep a copy of such agreement until all such shipment or lot has been removed from such establishment, and shall make such copies available for inspection at any reasonable hour to any officer or employee of the Department who requests them.

(b) An exemption of a shipment or other lot of a drug or device under clause (1) of paragraph (a) of this regulation shall, at the beginning of the act of removing such shipment or lot, or any part thereof, from

such establishment, become void ab initio if the drug or device comprising such shipment, lot, or part is adulterated or misbranded within the meaning of the Act when so removed.

(c) An exemption of a shipment or other lot of a drug or device under clause (2) of paragraph (a) of this regulation shall expire—

(1) at the beginning of the act of removing such shipment or lot, or any part thereof, from such establishment if the drug or device comprising such shipment, lot, or part is adulterated or misbranded within the meaning of the Act when so removed; or

(2) upon refusal by the person who introduced such shipment or lot into interstate commerce, or by the operator of the establishment where such drug or device is to be processed, labeled, or repacked, to make available for inspection a copy of the argeement, as required by such clause.

Section 505 (a)

A new drug shall not be deemed to be subject to section 505 of the Act if it is a drug which is licensed under the Virus, Serum, and Toxin Act of July 1, 1902 (U. S. C., 1934 ed., title 42, ch. 4), or the Virus, Serums, Toxins, Antitoxins and Analogous Products Act of March 4, 1913 (U.S.C., 1934 ed., title 21, ch. 5).

Section 505 (b)

An application which is on its face incomplete in that it does not contain all the matter required by clauses (1), (2), (3), (4), and (6) of section 505 (b) of the Act shall not be accepted for filing; the Food and Drug Administration shall notify the applicant of such non-acceptance and shall specify the clauses in respect of which such application is on its face incomplete. Otherwise the date on which an application is received by the Department shall be considered to be the date on which such application is filed, and the Food and Drug Administration shall notify the applicant of such date. If the applicant withdraws his application, such application shall be considered as not having been filed.

Section 505 (c)

If the Secretary determines, before the date prescribed by section 505 (c) of the Act for an application to become effective, that he has no cause to issue an order under section 505 (d) of the Act refusing to permit such application to become effective, the Food and Drug Administration shall so notify the applicant in writing, and such application shall become effective on the date of the notification.

Section 505 (i)

A shipment or other lot of a new drug shall be exempt from the operation of section 505 (a) of the Act, if—

(1) its labeling bears the statement "F O R INVESTIGATIONAL USE ONLY;"

(2) it is delivered only to, and solely for investigational use by, an expert qualified by scientific training and experience to investigate the safety of drugs; and

(3) the person who introduced such shipment or lot into interstate commerce holds a signed statement from such expert to the effect that he has adequate facilities for the investigation to be conducted by him, and that such drug will be used solely by him or under his direction for the investigation, unless and until an application under section 505 (b) of the Act becomes effective with respect to such drug.

Section 601 (a)

The term "coal-tar hair dye" includes all articles containing any coal-tar color or intermediate which color or intermediate alters the color of the hair when such articles are applied to the hair under the conditions of use prescribed in the labeling thereof, or under such conditions of use as are customary or usual.

Section 602 (a)

A cosmetic may be misbranded by reason (among other reasons) of the making of a false or misleading representation in the labeling thereof with respect to another cosmetic or a food, drug, or device.

Section 602 (b) (1)

(a) If the cosmetic is not manufactured by the person whose name is stated on the label, the name shall be qualified by the words "Packed by—" or "—Packer" in case the name is that of the packer, or by "Distributed by—," "Packed for—," or "—Distributor" in case the name is that of the distributor.

(b) The requirement that the label shall contain the name and place of business of the manufacturer, packer, or distributor shall not be considered to relieve any cosmetic from the requirement that its label shall not be misleading in any particular.

(c) Where a person manufactures, packs, or distributes a cosmetic at a place other than his principal place of business, the label may state the principal place of business in lieu of the actual place where each package of such cosmetic was manufactured or packed or is to be distributed, if such statement is not misleading in any particular.

Section 602 (b) (2)

(a) (1) The statement of the quantity of the contents shall reveal the quantity of cosmetic in the package, exclusive of wrappers and other material packed with such cosmetic.

(2) The statement shall be expressed in the terms of weight, measure, numerical count, or a combination of numerical count and weight or measure, which are generally used by consumers to express quantity of such cosmetic and which give accurate information as to the quantity thereof. But if no general consumer usage in expressing accurate information as to the quantity of such cosmetic exists, the statement shall be in terms of liquid measure if the cosmetic is liquid, or in terms of weight if the cosmetic is solid, semisolid, or viscous, or in such terms of numerical count, or numerical count and weight or measure, as will give accurate information as to the quantity of the cosmetic in the package.

(b) (1) A statement of weight shall be in terms of the avoirdupois pound and ounce. A statement of liquid measure shall be in terms of the United States gallon of 231 cubic inches and quart, pint, and fluid ounce subdivisions thereof, and shall express the volume at 68° Fahrenheit (20° Centigrade). However, in the case of an export shipment, the statement may be in terms of a system of weight or measure in common use in the country to which such shipment is exported.

(2) A statement of weight or measure in the terms specified in subdivision (1) of this paragraph may be supplemented by a statement in terms of the metric system of weight or measure.

(3) Unless an unqualified statement of numerical count gives accurate information as to the quantity of cosmetic in the package, it shall be supplemented by such statement of weight, measure, or size of the individual units of the cosmetic as will give such information.

(c) Statements shall contain only such fractions as are generally used in expressing the quantity of the cosmetic. A common fraction shall be reduced to its lowest terms; a decimal fraction shall not be carried out to more than two places.

(d) (1) If the quantity of cosmetic in the package equals or exceeds the smallest unit of weight or measure which is specified in paragraph (b) of this regulation, and which is applicable to such cosmetic under the provisions of paragraph (a) (2) of this regulation, the statement shall express the number of the largest of such units contained in the package (for example, the statement on the label of a package which contains one pint of cosmetic shall be "1 pint" and not "16 fluid ounces"), unless the statement is made in accordance with the provisions of subdivision (2) of this paragraph. Where such number is a whole number and a fraction, there may be substituted for the fraction its equivalent in smaller units, if any smaller is specified in such paragraph (b) (for examples, 1¾ quarts may be expressed as "1 quart 1½ pints" or "1 quart 1 pint 8 fluid ounces"; 1¼ pounds may be expressed as "1 pound 4 ounces"). The stated number of any unit which is smaller than the largest unit (specified in such paragraph (b)) contained in the package shall not equal or exceed the number of such smaller units in the next larger unit so specified (for examples, instead of "1 quart 16 fluid ounces" the statement shall be "1½ quarts" or 1 quart 1 pint"; instead of "24 ounces" the state-

ment shall be "1½ pounds" or "1 pound 8 ounces").

(2) In the case of a cosmetic with respect to which there exists an established custom of stating the quantity of the contents as a fraction of a unit, which unit is larger than the quantity contained in the package, or as units smaller than the largest unit contained therein, the statement may be made in accordance with such custom if it is informative to consumers.

(e) The statement shall express the minimum quantity, or the average quantity, of the contents of the package. If the statement is not so qualified as to show definitely that the quantity expressed is the minimum quantity, the statement shall be considered to express the average quantity.

(f) Where the statement expresses the minimum quantity, no variation below the stated minimum shall be permitted except variations below the stated weight or measure caused by ordinary and customary exposure, after the cosmetic is introduced into interstate commerce, to conditions which unavoidably result in decreased weight or measure. Variations above the stated minimum shall not be unreasonably large.

(g) Where the statement does not express the minimum quantity—

(1) variations from the stated weight or measure shall be permitted when caused by ordinary and customary exposure, after the cosmetic is introduced into interstate commerce, to conditions which unavoidably result in change of weight or measure;

(2) variations from the stated weight, measure, or numerical count shall be permitted when caused by unavoidable deviations in weighing, measuring, or counting individual packages which occur in good packing practice.

But under subdivision (2) of this paragraph variations shall not be permitted to such extent that the average of the quantities in the packages comprising a shipment or other lot of the cosmetic is below the quantity stated, and no unreasonable shortage in any package shall be permitted, even though overages in other packages in the same shipment or lot compensate for such shortage.

(h) A cosmetic shall be exempt from compliance with the requirements of clause (2) of section 602 (b) of the Act if the quantity of the contents of the package, as expressed in terms applicable to such cosmetic under the provisions of paragraph (a) (2) of this regulation, is less than one-half ounce avoirdupois, or less than one-eighth fluid ounce, or (in case the units of the cosmetic can be easily counted without opening the package) less than six units.

Section 602 (c)

(a) (1) All words, statements, and other information required by or under authority of the Act to appear on the label shall appear on the part or panel thereof which is presented or displayed under customary conditions of sale or distribution.

(2) If two or more such parts or panels are so designed as to render them likely to be so presented or displayed, each such part or panel shall bear all such words, statements, and information.

(3) If the size of such part or panel, as limited only by the area of the package presented to view when such part or panel is directly viewed, is insufficient for all such words, statements, and information to appear thereon with such conspicuousness and in such terms as to comply with the requirements of section 602 (c) of the Act, such part or panel shall be so extended around the package as to be sufficient for such purpose.

(b) The conspicuousness of a word, statement, or other information required by or under authority of the Act to appear on the label may fail to comply with the requirements of section 602 (c) of the Act by reason (among other reasons) of—

(1) the position on the label of such word, statement, or information;

(2) the limiting of label space for such word, statement, or information through the use of such space for any word, statement, design, or device which is not required by or under authority of the Act to appear on the label; or

(3) the limiting of label space for such word, statement, or information through the use of such space to give materially greater conspicuousness to any other word, statement, or information.

(c) If any part of the labeling is in a foreign language, all words, statements, and other information required by or under the authority of the Act to appear on the label or labeling shall appear thereon in both the English language and the foreign language.

Section 603

(a) Except as provided by paragraphs (b) and (c) of this regulation, a shipment or other lot of a cosmetic which is, in accordance with the practice of the trade, to be processed, labeled, or repacked in substantial quantity at an establishment other than that where originally processed or packed, shall be exempt, during the time of introduction into and movement in interstate commerce and the time of holding in such establishment, from compliance with the labeling requirements of sections 601 (a) and 602 (b) of the Act if—

(1) the person who introduced such shipment or lot into interstate commerce is the operator of the establishment where such cosmetic is to be processed, labeled, or repacked; or

(2) in case such person is not such operator, such shipment or lot is delivered to such establishment under a written agreement, signed by and containing the post-office addresses of such person and such operator, and containing such specifications for the processing, labeling or repacking, as the case may be, of such cosmetics in such establishment as will insure, if such specifications are followed, that such cosmetic will not be adulterated or misbranded within the meaning of the Act upon completion of such processing, labeling, or repacking. Such person and such operator shall each keep a copy of such agreement until all such shipment or lot has been removed from such establishment, and shall make such copies available for inspection at any reasonable hour to any officer or employee of the Department who requests them.

(b) An exemption of a shipment or other lot of a cosmetic under clause (1) of paragraph (a) of this regulation shall, at the beginning of the act of removing such shipment or lot, or any part thereof, from such establishment, become void ab initio if the cosmetic comprising such shipment, lot, or part is adulterated or misbranded within the meaning of the Act when so removed.

(c) An exemption of a shipment or other lot of a cosmetic under clause (2) of paragraph (a) of this regulation shall expire—

(1) at the beginning of the act of removing such shipment or lot, or any part thereof, from such establishment if the cosmetic comprising such shipment, lot, or part is adulterated or misbranded within the meaning of the Act when so removed; or

(2) upon refusal by the person who introduced such cosmetic into interstate commerce, or by the operator of the establishment where such cosmetic is to be processed, labeled, or repacked, to make available for inspection a copy of the agreement, as required by such clause.

Section 702 (b)

(a) (1) When any officer or employee of the Department collects a sample of a food, drug, or cosmetic for anlaysis under the Act, the sample shall be designated as an official sample if records or other evidence is obtained by him or any other officer or employee of the Department indicating that the shipment or other lot of the article from which such sample was collected was introduced or delivered for introduction into interstate commerce, or was in or was received in interstate commerce, or was manufactured within a Territory. Only samples so designated by

an officer or employee of the Department shall be considered to be official samples.

(2) For the purpose of determining whether or not a sample is collected for analysis, the term "analysis" includes examinations and tests.

(3) The owner of a food, drug, or cosmetic of which an official sample is collected is the person who owns the shipment or other lot of the article from which the sample is collected.

(b) When an officer or employee of the Department collects an official sample of a food, drug, or cosmetic for analysis under the Act, he shall collect at least twice the quantity estimated by him to be sufficient for analysis, unless—

(1) the amount of the article available and reasonably accessible for sampling is less than twice the quantity so estimated;

(2) the cost of twice the quantity so estimated exceeds $10;

(3) the article is perishable;

(4) the sample is collected from a shipment which is being imported or offered for import into the United States, or from a person named on the label of the article, or his agent, and such person is also the owner of the article; or

(5) the analysis consists principally of rapid analytical procedures, organoleptic examination, or other field inspection examinations or tests, made at the place where the sample is collected or in a mobile or temporary laboratory.

In addition to the quantity of sample prescribed above the officer or employee shall, if practicable, collect as part of the sample such further amount of the article as he estimates to be sufficient for use as exhibits in the trial of any case that may arise under the Act based on the sample.

(c) After the Food and Drug Administration has completed such analysis of an official sample of a food, drug, or cosmetic as it determines, in the course of analysis and interpretation of analytical results, to be adequate to establish the respects, if any, in which the article is adulterated or misbranded within the meaning of the Act, or otherwise subject to the prohibitions of the Act, and has reserved an amount of the article it estimates to be adequate for use as exhibits in the trial of any case that may arise under the Act based on the sample, a part of the sample, if any remains available, shall be provided for analysis, upon written request, by any person named on the label of the article, or the owner thereof, or the attorney or agent of such person or owner, except when—

(1) after collection, the sample or remaining part thereof has become decomposed or otherwise unfit for analysis, or

(2) the request is not made within a reasonable time before the trial of any case under the Act, based on the sample, to which such person or owner is a party.

The person, owner, attorney, or agent who requests the part of sample shall specify the amount desired and make advance payment of the cost thereof. A request from an owner shall be accompanied by a showing of ownership, and a request from an attorney or agent by a showing of authority from such person or owner to receive the part of sample. When two or more requests for parts of the same sample are received the requests shall be complied with in the order in which they were received so long as any part of the sample remains available therefor.

(d) When an official sample of a food, drug, or cosmetic is the basis of a notice given under section 305 of the Act, or of a case under the Act, and the person to whom the notice was given, or any person who is a party to the case, has no right under paragraph (c) of this regulation to a part of the sample, such person or his attorney or agent may obtain a part of the sample upon request accompanied by a written waiver of right under such paragraph (c) from each person named on the label of the article and owner thereof, who has not exercised his right under such paragraph (c). The operation of this paragraph shall be subject to the exceptions, terms, and conditions prescribed in paragraph (c) of this regulation.

(e) The Food and Drug Administration is authorized to destroy—

(1) any official sample when it determines that no analysis of such sample will be made;

(2) any official sample or part thereof when it determines that no notice under section 305 of the Act, and no case under the Act, is or will be based on such sample;

(3) any official sample or part thereof when the sample was the basis of a notice under section 305 of the Act, and when, after opportunity for presentation of views following such notice, it determines that no other such notice, and no case under the Act, is or will be based on such sample;

(4) any official sample or part thereof when the sample was the basis of a case under the Act which has gone to final judgment, and when it determines that no other such case is or will be based on such sample;

(5) any official sample or part thereof if the article is perishable;

(6) any official sample or part thereof when, after collection, such sample or part has become decomposed or otherwise unfit for analysis;

(7) that part of any official sample which is in excess of three times the quantity it estimates to be sufficient for analysis.

Regulation Pursuant to Chapter VIII Imports and Exports Section 801

I

(a) (1) A person who ships a food, drug, device, or cosmetic to the United States shall make a declaration (on Form No. 197 or No. 198 consular, whichever shall be applicable) which shall include a statement to the effect that such article has not been manufactured, processed, or packed under insanitary conditions; that such article is not forbidden or restricted in sale in the country in which it was produced or from which it was exported; that such article is not adulterated, misbranded nor in violation of section 505 of the act.

Form No. 198—Consular

Regarding shipment covered by Invoice No....., certified at....., ... on....., 19.....

I, the undersigned, am the.....

.....

(Seller or owner, or agent of seller or owner)

of the merchandise mentioned and described in the accompanying consular invoice. It consists of food, drug, or cosmetic products (or devices as defined by the Federal Food, Drug, and Cosmetic Act) which contains no added substance injurious to health. These products were grown in.....and manufactured in.....by

(Country)

(Town and country)

.....during the year

(Name of manufacturer)

....., and are exported from .....and consigned to .....

(City)

(City)

They bear no false labels or marks, contain no added coloring matter except.....,

(State coloring matter used, if any)

no preservative (salt, sugar, vinegar, or wood smoke excepted) except.....

.....

(State preservatives used, if any)

The undersigned further declares that such article or articles are not of such a character as to prohibit their entry into the United States in accordance with the provisions of the Federal Food, Drug, and Cosmetic Act in that they have not been manufactured, processed, or packed under insanitary conditions, nor are they of a character to cause prohibition or restriction in sale in the country where made or from which exported, nor are they adulterated or misbranded, nor are they in violation of Section 505 of the Federal Food, Drug, and Cosmetic Act.

I do solemnly and truly declare the foregoing statements to be true, to the best of my knowledge and belief.

Dated at.....this.....

(Place) *(Date)*

day of....., 19.....

(Signature).....

Instructions To Consular Officers

1. This declaration is to be firmly attached to the extra copy of consular invoice on Form No. 138-140 or 139-140 of shipment over $100 in value.

2. The official seal must be firmly impressed on the declaration, and the number, date of certification of invoice, and name of post plainly indicated.

3. Shipper should be instructed to declare the name of the manufacturer whenever possible.

4. If the declaration is believed to be incorrect or incomplete, or if consul believes that the goods are liable to detention, he should note such information on the invoice in the consular corrections or remarks column.

(2) If the article is to be offered for import at Atlanta, Baltimore, Boston, Buffalo, Chicago, Cincinnati, Denver, Houston, Kansas City, Los Angeles, Minneapolis, New Orleans, New York, Philadelphia, San Francisco, St. Louis, Seattle, or other ports where stations shall be established by the Food and Drug Administration, the seller or shipper shall attach such declaration to the invoice on which such article is to be entered.

(3) If the article is to be offered for import at a port where no station has been established by the Food and Drug Administration, the seller or shipper shall make a quadruplicate of such invoice for the station of the Food and Drug Administration within the jurisdiction of which such port is located, and shall attach such declaration to such quadruplicate.

(4) No food, drug, device, or cosmetic shall be delivered to the consignee prior to report of examination of such article, or prior to the stamping of the invoice as prescribed by subsection 5 of this regulation showing that no sample is desired, except upon the execution on the appropriate form of a bond as liquidated damages for the amount of the full invoice value of the article, together with the duty thereon. Upon the failure of the consignee for any cause to return the article or any part thereof to the custody of the collector of customs when demanded, for the purpose of excluding it from the country or for any other purpose, the consignee shall forfeit the full amount of the bond as liquidated damages.

(5) As soon as the importer makes entry of an article, the invoice covering it and the public stores packages of it shall be made available, with the least possible delay, for inspection by a representative of the station. When a sample is desired the representative shall request the collector of customs or appraiser of merchandise therefor, indicating the size of the sample. When no sample is desired the invoice shall be stamped by the representative "No sample desired. Food and Drug Administration, United States Department of Agriculture, per (initials of the representative)."

(6) At ports of entry where there is no laboratory of the Food and Drug Administration the Collector of Customs or Deputy Collector shall, on the day of receipt of first notice, by invoice or entry, of expected shipment of articles subject to the act, notify the chief of station, within whose territory the port is located, of the expected shipment.

(7) If no sample is desired, the chief of station, on the day he received the notice, shall advise the Collector of Customs by mail to that effect. Such advice shall be equivalent to stamping invoices at ports where stations are located with the statement prescribed in subsection 5 of this regulation.

(8) If a sample is desired, the chief of station shall immediately request the Collector of Customs to forward it and indicate the size of sample.

(9) Upon receipt of such request the Collector of Customs shall forward the sample without delay, together with a description of the shipment.

(10) When samples will be desired from each shipment of a particular article or when samples will not be desired, the chief of station shall furnish, at least every six months, to Collectors of Customs or Deputy Collectors within the station territory, lists of such articles and on the list of articles of which samples will be desired, shall indicate the size of sample for each such article. Upon the arrival of shipments of articles appearing on the list of samples which will be desired, the Collectors of Customs or Deputy Collectors shall send such samples to the station without delay, together with a description of the shipments. The list of articles, samples of which will not be requested, shall be treated as the equivalent of (7) of this subsection and invoices of such articles handled accordingly.

(11) In all other particulars the procedure shall be the same as non-laboratory ports as at laboratory ports except that the time consumed in delivery of notice by mail shall be allowed for.

(b) (1) Whether or not an article is in compliance with or in violation of the provisions of section 801 of the act is to be determined by the officers of the stations of the Food and Drug Administration.

(2) The detention, exportation and destruction of merchandise and action under the bond provided for in section 801 (b) of the act, in case of non-compliance with the provisions of the act, is to be performed or taken by the Collector of Customs. Except as indicated, all other operations in laboratory ports may be performed by officers of the station of the Food and Drug Administration, or Collectors of Customs, by agreement, consideration being given to local conditions and personnel, in which instances the chief of station shall be deemed a customs officer.

(3) At non-laboratory ports the Collector of Customs shall carry out the necessary operations on receipt of the necessary information from the chief of station of the Food and Drug Administration of the appropriate laboratory port.

(c) (1) All notices required by regulation under Section 801 of the act to be given to the owner or consignee of an article offered for import shall be deemed to have been duly and effectively given if given to the importer of record of such article.

(2) A notice to an owner or consignee that a sample of an article has been requested by the Secretary of Agriculture shall be in writing and shall be mailed by the Collector of Customs or the appraiser of merchandise to such owner or consignee, or such notice may be given by a suitable bulletin notice posted in the custom house listing all invoices of articles from which samples will be taken and posted in the custom house not later than one day after the day the decision is reached to take samples from such articles. Such bulletin notice shall remain posted for one week.

(3) The notice to an owner or consignee that a sample of an article has been requested by the Secretary of Agriculture shall likewise state that such article must be held intact until released.

(4) If it does not appear from the examination of the sample or otherwise that an article is adulterated, misbranded or in any other respect subject to prohibitions of the Act, the chief of station of the Food and Drug Administration shall give written notice of release to the owner or consignee of such article and a copy thereof to the Collector of Customs.

(d) (1) If the result of the examination of the sample or other evidence indicates that an article is adulterated, misbranded, or otherwise subject to the prohibitions of the act, the chief of station of the Food and Drug Administration shall give written notice thereof to the owner or consignee of such article and a copy thereof to the Collector of Customs. Such notice shall allege the respects in which such article appears to be adulterated, misbranded, or otherwise subject to the prohibitions of the act, and shall set a time and place for such owner or consignee to appear and introduce testimony.

(2) Such testimony shall be confined to matters relevant to the alleged adulteration, misbranding, or other condition subject to the prohibitions of the act, and may be introduced by letter or in person by such owner or consignee, or by a representative chosen by him for the purpose.

(3) Upon request, seasonably made, by such owner, consignee, or representative, such time may be changed if the request states reasonable grounds therefor and is made on or prior to the date for the hearing. Such request shall be addressed to the chief of station of the Food and Drug Administration which issued the notice.

(e) (1) After the owner or consignee of an article appears, produces testimony, or is given reasonable opportunity therefor, as provided by subsection d (2) of this regulation, the Chief of Station of the Food and Drug Administration, over the signature of the Collector of Customs or authorized stamped facsimile thereof, shall

notify such owner or consignee in writing that such article is released and sending a carbon copy of the notice to the Collector of Customs, or that it appears from such examination that such article does not conform with the provisions of the act, and that it is to be refused admission, stating the reason therefor in such notice and sending a carbon copy of the notice to the Collector of Customs.

(2) The notice of refusal of admission shall state that the article must be exported or destroyed under customs supervision within three months of the date thereof, as provided by law. The owner or consignee (or importer of record in case notice has been sent to him) shall return the notice to the Collector of Customs with the information required by the form filled in and properly certified. If the article is not exported or destroyed, under customs supervision, within three months of the date of the notice, the Collector of Customs shall cause it to be destroyed. The copy of the notice sent to the Collector of Customs by the Chief of Station, when action is completed, shall then be returned to the Chief of Station with notation thereon of the action taken. The exportation of articles refused admission under the act or the regulations thereunder shall be in accordance with the procedure set forth in the applicable customs regulations which have been or may be prescribed by the Secretary of the Treasury.

II

(a) (1) The owner or consignee of an article may, at the time of the hearing or within a reasonable time thereafter, request the Chief of Station of the Food and Drug Administration in writing to permit the relabeling or other act with respect to such article necessary to bring it into compliance with the provisions of the act, or to render it not a food, drug, device, or cosmetic within the meaning of the definitions of such articles in section 201 (f), (g), (h), and (i) of the Act. Such request shall propose labeling to be used and any other act to be done for such purpose, and shall specify the time and place where such proposed labeling or other act is to be done.

(2) Unless such relabeling or other act with respect to such article is prohibited by subdivision (3) of this paragraph, the Chief of Station of the Food and Drug Administration, over the signature of the Collector of Customs or authorized stamped facsimile thereof, will give such owner or consignee written notice that such relabeling or other act will be permitted, sending a carbon copy of the notice to the Collector of Customs.

Such notice shall specify all conditions which must be fulfilled within three months of the date of the notice in order to bring such article into compliance with the provisions of the Act, including the destruction, under customs supervision, of all rejected material, or to render it not a food, drug, device, or cosmetic within the meaning of the definitions of such articles in section 201 (f), (g), (h), and (i) of the Act, and to bring the performance thereof under the provisions of the customs bonds on consumption and warehouse entries, which bonds shall include provisions requiring compliance with the provisions of the Act and regulations thereunder.

In addition, the notice shall also indicate the officer who shall be notified by the owner or consignee (or the importer if notice has been sent to him) when the operations have been completed and the article is ready for inspection. If such conditions are fulfilled within three months of the date of the notice specified by this subsection, such article will be released, notice thereof being given to the owner or consignee, sending a carbon copy of the notice to the Collector of Customs.

(3) When it appears that the labeling constitutes a flagrant or intentional misbranding, or that the condition of the article is such as to indicate deliberate adulteration, or the owner or consignee thereof was informed with respect to any violation prior to the date of export, or that a public notice had been issued by the Secretary of Agriculture to the effect that, after a date prior to such date of export, such relabeling or other act with respect to such article would not be permitted, then the provisions of the preceding paragraphs shall not apply and the article must be destroyed or exported under customs supervision.

(4) When relabeling or other act with respect to such article is to be allowed under the provision of subsection (2) of this section, the owner or consignee (or importer if the notice has been sent to him) shall return the notice to the Collector of Customs or chief of station designated thereon, with the certificate on the notice filled out stating that he has performed the prescribed operations, that the rejected portion required to be held for destruction is so held and is ready for destruction under customs supervision, that the article, including such rejected portion, is ready for inspection, naming the place where such article and such portion are held.

(5) The officer so notified shall deliver the notice to the representative of the Food and Drug Administration or the Collector of Customs who is to make the inspection. After inspection the representative shall write a report thereof on the back of the notice and send it to the Collector of Customs or Chief of Station, as the case may be, from whom he received the notice.

(b) (1) (a) When the operations to be performed are under the entire supervision of the Chief of the Station, and these operations have been effectively and completely performed and all the conditions imposed have been fulfilled within the time prescribed therefor, he shall give notice to the importer that the article is released in so far as the provisions of the Act relate thereto and shall send a copy thereof to the Collector of Customs; but if the operations have not been effectively and completely performed and all the conditions imposed have not been fulfilled within the time prescribed therefor, and the article is to be exported or destroyed, the chief of station, over the signature of the Collector of Customs or authorized stamped facsimile thereof, shall immediately give notice of refusal of admission to the importer and shall send a carbon thereof to the Collector of Customs. Such notice shall show that the article must be exported or destroyed, under customs supervision, within three months from the date thereof as required by law. If the article is not exported or destroyed by the importer, under customs supervision, within three months from the date of the invoice, the Collector of Customs shall cause its destruction and shall notify the chief of station of the action taken.

(b) When, however, the operations to be performed are under the supervision of the chief of station and the destruction of a rejected portion of the article under customs supervision is a condition of the release, the chief of station shall give notice to the Collector of Customs that the portion which has been brought into compliance with the act is ready for release after destruction of the rejected portion has been accomplished, under customs supervision, and transmit to him the notice received from the importer with the form thereon properly filled in showing that the rejected portion is ready for destruction. The Collector of Customs, with the least possible delay, shall cause the destruction of the rejected portion. Within one day after such destruction the Collector of Customs shall return such notice to the chief of station after having noted thereon that the destruction has been accomplished. Within one day after the receipt of such notice the chief of station shall send notice of release of the article to the importer and a carbon copy thereof to the Collector of Customs.

(2) When the operations to be performed are under the entire supervision of the Collector of Customs, and those operations have been effectively and completely performed within the time prescribed therefor, he shall give notice of release of the article to the owner or consignee and shall send a carbon copy thereof to the chief of station. If the conditions imposed include destruction of the rejected portion of the article no release of the article shall be given until the rejected portion has been destroyed under customs supervision. If, however, operations have not been effectively and completely performed within the time prescribed therefor, the Collector of Customs shall give notice to the owner or consignee that the article shall be exported or destroyed within three months from the date of the notice and shall send a copy thereof to the chief of station. If

the article is not exported or destroyed within three months from the date of the notice the Collector of Customs shall cause it to be destroyed.

(3) The privilege of relabeling or other operation to bring an article into compliance with the Act shall be allowed only when the owner or consignee agrees to hold the article at a stated place and to maintain conditions at all times which will preserve the identity of the article and prevent its loss through mixture with other articles or otherwise. The owner or consignee shall furnish evidence satisfactory to the chief of station or Collector of Customs by affidavit or otherwise as to the identity of any article which has been subject to such operations.

(4) When the Collector of Customs has taken final action with respect to an article which has been refused admission, or with respect to which relabeling or other operations have been permitted under his supervision he shall give notice thereof to the chief of station, showing the date of release or destruction, or the date of exportation and the country to which the article is exported, as the case may be.

(5) The chief of station may require that the owner or consignee may submit affidavits executed before a Notary Public or other officer authorized to administer oaths generally, showing to the satisfaction of the chief of station the use to which such article has been put.

(6) Inspection of articles under the Act involving relabeling and other operations to bring them into compliance with the Act when no representative of the station is available therefor, and inspection of articles to be exported or destroyed, in whole or in part, shall be performed by Collectors of Customs.

(7) Collectors of Customs and chiefs of stations shall make joint arrangement for the apportionment of inspection duties between them, due regard being given to local conditions. Whenever feasible representatives of stations at laboratory ports shall inspect articles which have been relabeled or subjected to other operations to bring them in compliance with the Act. At non-laboratory ports relabeling and other operations will be under the supervision of the Collector of Customs or deputy collector.

(c) (1) If the Collector of Customs has supervision over the disposal of an article and acquires evidence tending to show that the disposal was in violation of the Act or this regulation or of the terms of the bond, he shall immediately send such evidence in detail, to the chief of station. The chief of station shall send to the Collector of Customs a statement giving a summary of all the facts and any additional evidence which he may have tending to show the importers' liability under the bond.

(2) If the chief of the station has supervision over the disposal of an article and acquires evidence that the disposal was in violation of the Act or this regulation, or of the terms of the bond, he shall immediately send to the Collector of Customs a statement giving a summary of all the facts and any evidence he may have tending to show the importers' liability under the bond.

(3) The Collector of Customs, within three days of receipt of the statement and evidence, shall notify the owner or consignee that the article must be returned to customs custody. If the article is not returned to customs custody within thirty days from the date of the notice, action shall be taken immediately to enforce the terms of the bond unless, in the meantime, the owner or consignee shall file with the Collector of Customs an application for cancellation of the liability incurred under the bond upon the payment as liquidated damages of a lesser amount than the full amount of the liquidated damages incurred, or upon the basis of such other terms and conditions as the Secretary of the Treasury may deem sufficient. The application shall contain a full statement of the reasons for the requested cancellation and shall be in duplicate and under oath.

(4) The Collector of Customs shall transmit the application, his recommendation, and the station chief's statement, all in duplicate, to the Secretary of the Treasury, Bureau of Customs, for the necessary action.

III

Articles Suitable Only For Technical Or Restricted Use, Denaturing

(a) A food, drug, or cosmetic which is adulterated or misbranded within the meaning of this Act and which is offered for import for industrial purposes must be denatured and the invoice thereof must bear a statement showing that the article is to be used for industrial purposes.

Where, however, it is impracticable to denature such article it may be permitted entry provided—

(1) It is plainly and conspicuously labeled, in the case of food, "inedible," and, in the case of drugs, "not for medicinal use."

(2) At the time of entry the owner or consignee submits a statement in writing that the article will not be used as a food, drug, or cosmetic.

(3) At the time of entry the owner or consignee submits a statement that the article will be used in a certain suitable manner by a certain named party or parties.

(4) At the time of entry the owner or consignee agrees to furnish satisfactory proof as to the actual use of the article and the name or names of the parties who use it.

The penal bond given at the time of entry will not be cancelled until such evidence of satisfactory disposition shall have been received.

(b) A food, drug, or cosmetic having but a restricted legitimate use and of such character that it can not legally be distributed for unrestricted general use, e. g. pharmacopoeial crude drugs deficient in active principle and certain substitutes for pharmacopoeial crude drugs, may be allowed entry if properly labeled, provided suitable evidence be furnished by affidavit or otherwise that it will be used by a designated party or parties for manufacture into articles in which it may be legitimately employed. The penal bond given at the time of entry will not be cancalled until proof of satisfactory use of the product shall have been received.

Hair Dye Regulations

Sections 601 (a) and 902 (a) of the Food, Drug, and Cosmetic Act require, among other things, that after September 23, 1938, a coal-tar hair dye which may be injurious to users shall bear the statement

> "Caution—This product contains ingredients which may cause skin irritation on certain individuals and a preliminary test according to accompanying directions should first be made. This product must not be used for dyeing the eyelashes or eyebrows; to do so may cause blindness."

It is necessary, as provided in the caution statement, that all such hair dyes bear labeling prescribing adequate preliminary tests. For the benefit and guidance of those interested, there are published herewith directions which, in the light of present knowledge and information, are regarded as acceptable. This information is given merely as a guide and does not mean that other tests may not be acceptable.

DIRECTIONS FOR MAKING SKIN TEST

(1) The hair dye contained in this package must never be used for dyeing the hair unless a preliminary skin test has been made. The skin test must be made each and every time before the hair is to be dyed, regardless of whether or not a skin test has been made at some time previously.

(2) The dye used for the preliminary skin test must be a portion of the article intended to be used for dyeing the hair.

(3) The sample of dye to be used for the preliminary skin test should be mixed and prepared in exactly the same manner and according to the directions applicable to the actual use of the hair dye itself.

(4) By means of a suitable applicator (clean camel hair brush, cotton-tipped applicator, or other applicator) a streak of dye not less than a quarter of an inch wide and at least one-half inch long is made on the skin and scalp behind one ear. It is *Important* that the streak of dye extend

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ALCOHOL NEWS

November ★ A Monthly Series of Technical Articles for Chemists and Executives ★ 1938

Spilling, contamination and broken finger nails are only a few of the hazards H. L. Wilson claims are eliminated in his patented tablet dispenser which discharges one tablet at a time by means of a revolving shutter. Easily made tamper-proof, the dispenser costs less than ordinary packages, Mr. Wilson states.

Lowering pH Increases Potency Of Germicides

Acidification of germicides generally results in increased germicidal power, Dr. Paul Goedrich of Rutgers University reports. Adding dilute hydrochloric acid to iodine, bichloride of mercury and phenol solutions, and acetic acid to permanganate solutions, makes the mixtures many times more efficient than the antiseptic or acid alone, he says.

Dr. Goedrich attributes only a minor part of this effect to the acid, maintaining that most of the increase is due to the combined action of the acid or acid salt with the germicide.

This action is not selective, he points out, but is applicable to all types of bacteria, molds, fungi, etc. Furthermore, he finds, that germicides which have no effect upon resistant spore-bearing organisms, will become sporacides, at a lower pH.

Evidence that solutions of low pH have no harmful effect in open wounds or on the mucous membranes, is reported.

Says Skin's Acid Layer Has Bactericidal Power

BERLIN, Germany—The existence of a bacteriacidal acid layer on the skin was recently demonstrated here by two experimenters who measured the hydrogen ion concentration with an epicutaneous electrode. This coating is said to have a pH from 3 to 5 and to result from the secretion and evaporation of perspiration.

They report that the axillary, genital and anal regions, interdigital parts and sole of the foot, have a weakly acid or alkaline reaction as a result of the formation of ammonia when evaporation of perspiration is hindered.

Alcohol Separates Sugar And Flour From Bananas

FOREST HILLS, N. Y.—Average yields of 13 to 17 pounds of invert sugars in syrup form and from 4 to 6 pounds of vitamin-bearing flour may be obtained from each 100 pounds of ripe banana pulp by thoroughly mixing it with 95% alcohol in quantities ranging from 40 to 60% by weight of the amount of water present in the pulp, an inventor here declares.

In the patent covering the process, it is revealed that the amount of alcohol specified overcomes previous difficulties which arose from pulp discoloration and enzyme action.

"Up" Hair Styles Create Larger Market for Hair Preparations

Demand for Better Wave Sets and Lacquers Boosts Popularity Of Alcohol Formulas; Dry Faster, Easier to Perfume

Recent weeks have found many manufacturers overhauling formulas for hair preparations. Included in that category is everything from brilliantines to wave sets — and hair lacquers. For, how long the "up" hair-do fashion lasts will be largely dependent, most experts agree, on how successful manufacturers are in creating preparations which make it easy for women to keep their hair up.

NEW YORK, N. Y.—Of 33,459 women questioned in a national survey by *Drug Topics*, 28.6% purchased wave set lotions. In the 15-19 age group, 51.0% made regular purchases; in 20-29 group, 24.4%; in 30-39 group, 19.8%; in 40 and over, 19.4%. The 20-29 group bought the largest number of units—6.8.

Sifting past complaints on wave sets, for instance, observers note two which appear with alarming frequency: (1) slow drying and (2) flakiness. Both rank high in nuisance value, particularly since elimination of one may bring about the presence of the other.

In an effort to develop more acceptable setting lotions some compounders have turned to relatively new raw materials, such as sodium alginate, for which greater uniformity is claimed. A feature of sodium alginate is the fact that its viscosity may be varied by the addition of calcium salts.

Advantages Of Alcohol

One published wave set formula using sodium alginate is given as follows:

(A)	Sodium alginate	2	parts
	Distilled water	100	"
(B)	Perfume	1	"
	Denatured alcohol	5	"
(C)	Calcium citrate	0.15	"
	Distilled water	90	"

"B" is added to "A" after which "C" is added to the mixture and the whole allowed to stand for one to two hours, when thickening is complete

Alcohol is used to speed drying. It also has some preservative effect. For ease of perfuming a high grade of denatured alcohol from which perfume destructive elements such as

(Continued on next page)

Doctors Study Tests Of Insulin Effect In Vitro

CHICAGO, Ill.—Attention to a new series of experiments which strengthen the possibilities of demonstrating *in vitro* primary effects of insulin on carbohydrate metabolism, is directed by an editorial appearing in a recent issue of the *Journal of the American Medical Association.*

"Citric Acid Cycle"

Comment of the *Journal* follows on the heels of an article describing an effect of insulin on oxidations in isolated pigeon breast muscle. Authors of this latest study report that the addition of insulin retards the decline in respiration, which under the conditions they set up, ordinarily begins from half an hour to an hour after the initiation of the experiments.

It was also found, the editorial states, that insulin had its greatest effect if added together with citrate and muscle extract, from which it was concluded that insulin acts as a catalyst in a "citric acid cycle."

Concluding that it is too early to determine the exact significance of these results, the *Journal looks* forward to further work which may explain "one of the most important of the unsolved problems in the biologic sciences."

Alcohol in Leaven For Bread

PARIS, France—A slow acting leaven suitable for preparing baking mixtures which can be kept for relatively long periods before baking, was patented here recently. A specified composition contains baker's yeast 40-50, rectified ethyl alcohol 14-20, sucrose 13-19, d-glucose 5-11 and fatty oil or fat 14-20 parts.

UPSWEPT BEAUTY

No upward hair styling, New York hairdressers said at their recent convention, is complete without hair lacquer to keep wispy hairs looking tidy. The sculptured sweep of the model at right is by Louis—American Hair Design Institute.

ADVERTISEMENT—*This entire page is a paid advertisement.*

Extra Hydroquinone In Absolute EtOH Guards Oils' Vitamin Potency

BROOKLYN, N. Y.—Because hydroquinone functions more or less quantitatively in checking the deterioration of vitaminous oils, its effect can be enhanced by adding it to oils in a carrier which allows greater amounts to be dissolved, it is claimed in a patent just issued to an inventor here.

For example, by adding to 100 cc. halibut liver oil, 5 cc. absolute ethyl alcohol containing in solution 0.3 g. hydroquinone, it is possible to obtain 0.3 per cent solutions of hydroquinone in halibut liver oil as compared with the 0.03 per cent saturated solutions obtained when the chemical is added directly to the oil, the inventor reveals.

Oils holding the extra hydroquinone in solution are asserted to retain their vitamin potency, taste and odor for much longer periods. In place of absolute alcohol, ethyl ether, and ethyl acetate may also be used, according to the patent.

"Up" Hair Styles Enlarge Hair Preparation Market

(Continued from preceding page)

foreign odor, fusel oil constituents, aldehydes and other impurities have been extracted, should be employed.

One recently developed technique for preparing wave sets from ordinary gum karaya is reported to eliminate many previous objections which arose when this staple was used. It consists of mixing 28 grams of previously untreated karaya with 30 cc. of a solution obtained by dissolving 9.2 grams of potassium hydroxide in 15 cc. of water and adding 85 cc. of denatured alcohol.

The combined solutions are mixed and allowed to stand until neutral to phenolphthalein paper. As a final step, the solution is diluted with water to the desired concentration, and preservative, color, perfume, etc., added.

In this type of lotion, specially denatured alcohol is especially valuable in assisting gum dispersion without lump formation. To prevent flaking, a small amount of glycerine or sorbitol may be added.

Some compounders of wave sets show a preference for quince seed and suggest the following formula:

Quince seed base	35.0
Potassium carbonate	4.0
Preservative	0.2
Denatured alcohol	15.0
Perfume	0.3
Distilled water	45.5
	100.0

Proponents of quince seed assert it has a minimum tendency toward flakiness, is more transparent, and leaves less deposit on the hair.

The use of hair lacquer is due for a revival after long experiment, according to recent reports. Lacquer, of course, is of particular importance for keeping wispy hairs around the nape of the neck looking tidy, so that no upward hairstyling, hairdressers say, is complete without it.

The term "hair lacquer," inquiry by ALCOHOL NEWS revealed, is being applied to preparations which are essentially wave sets diluted to a consistency suitable for spraying with atomizer. In this sense their formulation is very little different.

However, some sources who declined to be quoted, declare that lacquers which consist of resins, such as manila dissolved in alcohol, may also be employed. The application of these calls for highly skilled operators, they point out.

See Liquid Lip Rouge Sales Loaded With Possibilities

NEW YORK, N. Y.—Observers here are closely watching sales of liquid lip rouge. Remembering the early success of the so-called "black" lipstick, they are wondering what response the new cosmetic will bring.

Greater indelibility is also being claimed for the liquid product which, in several large chains, is sold with a liquid "remover."

Claims Better Solution For Surgical Scrub-up

CHICAGO, Ill.—A new solution for use in conjunction with soap in cleansing the surgeon's hands and in the preoperative preparation of patients is described in a recent issue of *Surgery, Gynecology and Obstetrics*.

It consists of 2 parts of sodium ortho-xenolate, 8 parts sodium oleate, 400 parts acetone and 600 parts 95% alcohol. One part of the solution is used in 30 parts water.

Chief advantages claimed for the new solution are (1) it dissolves the fat in the skin and allows penetration of the sweat glands, and (2) it is not neutralized by organic matter or soap.

Phenol coefficient for sodium ortho-xenolate is given as 18 against typhoid becillus.

Soviet Perfume Plant

KALUGA, U. S. S. R.—Synthetic aromatic materials, including fifty volatile oils of various colors and scents will be manufactured in a multiple perfumery works now being erected near here, according to unconfirmed dispatches to World Trade Notes.

Suitable and approved grades of specially denatured alcohol in regular and anhydrous form are available for the formulation of wave set lotions and hair lacquers. The U. S. Industrial Alcohol Co. is glad to aid manufacturers in the selection of formulas rigidly tested for freedom from foreign odor. For further information, write U.S.I.

TECHNICAL DEVELOPMENTS

Further information on these items may be obtained by writing to U.S.I.

An antiseptic 91,000 times as bactericidal as carbolic acid and 1,300 times as potent as bichloride of mercury when tested against a variety of spore forming and non-spore forming organisms, has been introduced. It is odorless and colorless, an announcement continues, and is sufficiently non-irritating for use in cosmetics. (**No. 151a**)

U S I

Cement consisting of phenolformaldehyde resin and special fillers determined by the application, is described by the manufacturer as hard, dense, and unusually resistant to acids, salts, weaker bases, many solvents and chlorine. A special grade is designed specifically for hydrofluoric acid and related materials. (**No. 152a**)

U S I

A new cholesterine absorption base for creams, ointments, etc., is said to contain no lanolin and to require none to make stable emulsions. According to the manufacturer, the product absorbs more than 5 times its weight of water, has no objectionable odor, will neither oxidize nor turn rancid and is suitable for vegetable or mineral oil emulsions. (**No. 153a**)

U S I

An ink for writing on glass, porcelain or china is claimed to be permanent, non-inflammable, and non-corrosive and to resist most acids, alkalis and solvents. (**No. 154a**)

U S I

A new grade of Titanium Oxide for cosmetic use is described as "quite fluffy" and therefore easier to incorporate into creams and face powder. (**No. 155a**)

U S I

A refined, odorless grade of soybean oil was announced recently. The oil is said to be light in color, comparatively inexpensive and easy to incorporate in cosmetic preparations. (**No. 156a**)

U S I

New diffusion pumps capable of producing vacuums of one/ten millionth mm. at speeds of approximately 1,000 liters of gas per second, were announced recently. Employing a beam of special oil vapor in place of a rotary propeller, the pumps are reasonably priced, the manufacturer reports. (**No. 157a**)

U S I

Vegetable lecithin recommended for activating and emulsifying cosmetic creams is now available in three grades according to a recent announcement. One grade contains 60 to 65% lecithin in refined soy bean oil, the second is a mixture of 80% lecithin—20% cocoa butter, and the third is a pure, 100% grade, the announcement states. (**No. 158a**)

U S I

A germ-proof process for treating textiles to render them actively antiseptic and germ resistant is now available under license arrangements, according to a recent announcement. The process may be applied to cotton, wool, rayon and silk fabrics, according to the developers. (**No. 159a**)

U.S.I. INDUSTRIAL ALCOHOL CO.
U.S.I. INDUSTRIAL CHEMICAL CO. INC.
WORLD'S LARGEST PRODUCERS OF INDUSTRIAL ETHYL ALCOHOL
SPECIALLY DENATURED-*All Formulas* • COMPLETELY DENATURED-*All Formulas* • ANHYDROUS-*Denatured* • ABSOLUTE-*Pure*
SOLOX-*The General Solvent* • U. S. I. DENATURED ALCOHOL • SUPER PYRO *Anti-Freeze*
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into the hairy portion of the scalp as well as that portion of the skin that is hairless.

(5) The streak of dye should be permitted to remain for at least 24 hours. The test should be read between 24 and 48 hours after application. Preferably the test area should *not* be covered with any type of dressing, and contact with combs, hats, spectacles or any other object should be avoided.

(6) WARNING: If redness or burning, or itching, or small blisters, or any other type of eruption appears in the general area used for the skin test during the first 24 hours, the individual is sensitive to the dye, and under no circumstances should it be used for dyeing the hair. Hair dyes should not be used when there is any disease or eruption present anywhere on the skin or on the scalp.

Section 602 (c) requires that the caution statement appear on the label in a prominent and conspicuous place. This requirement would be met if the caution statement appears conspicuously in a color that contrasts with the background and the remainder of the printed matter. The caution statement should appear on the main panel of the label with the name of the product.

New Color List

The Food and Drug Administration has issued another list of dyes for certification under the Federal Food, Drug, and Cosmetic Act, the new list superceding the previous list given on page 407 of our October issue. The FDA has also changed its request for a sample to only pound. In addition to information previously requested, they now ask for the structural formula of the dye. The new list follows:

C. I. No.	*Name*
	Green
662	Brilliant Green cryst.
666	Guinea Green B (Certified).
667	Fast Acid Green B.
670	Light Green SF Yellowish (Certified).
1078	Alizarin Cyanine Green F.
None	Fast Green FCF (Certified)
None	Alizarin Cyanine Green F (1078 unsulfonated—Zinsser).
	Yellow
None	Naphthol Yellow S (Certified).
22	Oil Yellow AB (Certified).
138	Metanil Yellow.
61	Oil Yellow OB (Certified).
636	Fast Light Yellow.
640	Tartrazine (Certified).
642	Polar Yellow 5G
766	Fluorescein.
800	Quinoline Yellow, (spirit-soluble).
801	Quinoline Yellow, (water-soluble).
None	Sunset Yellow (Certified).
None	Cosmetic Fanchon Yellow (Harmon).
	Red
30	Fast Acid Magenta B.
35	Brilliant Lake Red R.
44	Para Red.
57	Amidonaphthol Red 6B
73	Sudan II.
79	Ponceau 2R.
80	Ponceau 3R (Certified).
113	Oil Vermillion (Sudan R).
163	Permanent Red 4B Extra (Lithol Rubin B).
165	Red for Lake C.
176	Fast Red A, Extra.
184	Amaranth (Certified).
189	Lithol Red (Monolite Red R).
214	Lake Red D.
216	Pigment Scarlet 3B.
248	Toney Red (Oil Scarlet).
749	Rhodamine B.
752	Rhodamine 6G.
758	Violamine R.
768	Eosine YS (Bromo acid).
772	Erythrosine.
773	Erythrosine (Certified).
777	Rose Bengale.
778	Phloxine B.
1027	Alizarin.
1034	Alizarin Carmine.
1128	Algol Pink R (Vat Pink B).
1211	Helindone Pink BN.
None	Ponceau SX (Certified).
None	Spirit Fast Red M (National Aniline).
None	Oil Red O (National Aniline).
None	Oil Pink B (National Aniline).
None	Dichlorfluorescein (Kohnstamm).
None	Alizarin Light Red B (Sandoz).
None	Alizarin Light Red 4 B (Sandoz)
None	Dibromfluorescein (Hilton-Davis).
None	Tetrachlorfluorescein (Kohnstamm).
None	Cumidine Oil Red (Kohnstamm).
	Orange
23	Sudan G.
27	Orange G.
150	Orange I (Certified).
None	Orange BN (Calco).
None	Cosmetic Fanchon Orange (Harmon).
None	Neo-Orange (Max Factor).
	Brown
81	Oil Brown D.
167	Acid Alizarin Brown B.
234	Resorcin Brown.
None	Oil Brown M (National Aniline)
332	Bismark Brown.
	Violet
695	Acid Violet 4BN.
1073	Alizurol Purple (Alizarin Irisol Violet).
None	Alizarin Irasol Violet (1073 unsulfonated—Zinsser.)
1080	Anthraquinone Violet B.
None	Alizarin Light Violet 2RC—Sandoz).
	Blue
671	Alphazurine FG (Patent Carmine Blue AE).
714	Brilliant Acid Blue A (Patent Blue A).
729	Victoria Blue B.
860	Induline (spirit-soluble).
861	Induline Blue (water-soluble).
922	Methylene Blue.
1054	Alizarin Saphirol.
1075	Alizarin Astrol B.
113	Indanthrene Blue CD.
1177	Indigo (Synthetic).
1180	Indigotine (Certified).
None	Alizarin Night Blue AG (Sandoz).
None	Hexyl Blue (John Campbell).
None	Brilliant Blue FCF (Certified).
None	Neo-Blue (Max Factor & Co.).
	Black
246	Naphthol Blue-Black.
307	Coomassie Fast Black B.
None	Grasol Fast Black (Geigy).
864	Nigrosine (spirit-soluble).
865	Nigrosine (water-soluble).

F. T. C. Action

Hair Products, Cough Remedy, Tonic Stipulation

Jamil Akhtar, Detroit, trading as Taj Perfume Co., and selling cosmetics, hair dressing preparations, medicinal products and incenses in interstate commerce, has entered into a stipulation with the Federa Trade Commission to stop certain practices. He has agreed to stop advertising that the hair dressing preparation, Taj, is a hair grower or a magic hair grower; that his Hair Color Restorer will restore the original color of hair; that his Superior Hindu Balm is a competent treatment or effective remedy for colds or coughs; that his product, Roo Hee, is a tonic the use of which will make one feel years younger, and that the burning of his incense will bring luck, friends or prosperity or enable one to "get his number from the ashes."

Greater Quantity Stipulation

The Sitroux Co., Inc., New York, has agreed, in response to a complaint brought by the Federal Trade Commission, to cease representing that its packages of facial tissues contain 20 per cent. greater number, or any greater number, of sheets of equal quality paper than the packages offered by its competitors, when such is not a fact. The stipulation points out that, although such a claim may have been true when it was first made, it was no longer so at the time the advertisements involved in the stipulation were published.

Therapeutic Effectiveness Stipulation

Frederick Tilney, Hollywood, Fla., has entered into a stipulation with the Federal Trade Commission to cease misrepresenting the therapeutic properties and effectiveness of certain preparations, including food concentrates, beverages and a denti-

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AROMATIC CHEMICALS • FLAVORING MATERIALS

• TERPENELESS OILS • ETHERS • ETC.

CUTANOL

We announce the creation of this masterpiece, developed to give an unusual flower note to your creams, lotions and powders.

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F. POLAK'S FRUTAL WORKS Inc.

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San Francisco
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frices, which he sells in interstate commerce. The products are designated as Etalax, Eta Food Capsules, Sharkol, Vitana, Sea Tabs, Nu-Vege-Sal, Sipp, Sym, Peppermint Tea, Potassium Broth and Santay Dentifrice. In the sale of books and courses on such subjects as health, diet and personal magnetism, the respondent agrees to stop representing that study of any of such books and courses will guide one to a healthy life, reveal never failing success secrets, enrich personality, or revolutionize one's life.

Mi-31 Claims Limited

United Drug Company in the sale of Mi-31 Solution, recommended for the treatment of colds, will cease advertising that the preparation will kill all germs unless such representation is limited expressly to germs exposed to direct contact with the solution.

Cu-Tane Ads to Change

Jacobs Pharmacy Company and Galenol Company, Inc., Atlanta, in advertising Dr. Fred Palmer's Cu-Tane Compound, will stop representing that use of the product will stop or instantly relieve the itching caused by rashes, tetter, eczema, athlete's foot and other skin conditions; that it will clear pimply skin or make the skin softer, and that it has healing qualities, unless this claim is limited to aiding in the healing of superficial skin disorders. Respondents will discontinue using the name Dr. Fred Palmer in the trade name of their product, admitting that he was never associated with the development of the preparation.

Mosby Stopped by F.T.C.

Federal Trade Commission has ordered G. H. Mosby and Van-Tage Medicine Co., Los Angeles, to cease representing that their product, Van-Tage, will throw off poisons that foster stomach trouble; will strengthen the nerves by natural means, relieve acid conditions, and flush out quantities of impurities from the kidneys, and is a competent treatment for various conditions of the digestive organs.

Another practice ordered discontinued is the representation, through paid testimonials, of the effect of a general use of the product upon persons not sufficiently skilled in the diagnosis of human maladies to accurately state the nature or extent of any effect obtained from a use of the product.

Willard Treatment Stopped

An order by the Federal Trade Commission directs Willard Tablet Co., Chicago, to discontinue misrepresentations concerning therapeutic properties of a medicinal preparation designated Willard Tablets. The company distributes to purchasers of the tablets literature containing advice of a dietary and hygienic nature, and refers to its preparation and such literature as the Willard Treatment.

Representations prohibited are that the preparation or treatment constitutes a competent and an adequate cure or remedy for stomach or duodenal ulcers, or that either will do more than produce a soothing effect on the irritations in the stomach caused by an excess acid condition or provide a temporary relief from the symptoms of distress caused by such condition.

The company also is ordered to stop advertising that its preparation or treatment is "remarkable" or "marvelous"; that the preparation is compounded from an unique formula, and that the treatment is more dependable than any other for correcting the ailments and conditions for which the respondent recommends it.

Hawaiian Origin Stipulation

Allen H. Rabin, trading as the Rabin Co., Los Angeles, has entered into a stipulation in the sale of a certain perfume, to discontinue labeling the product with the word, "Honolulu" either alone or with the words "The Isle of Romance" or with words of similar implication, the effect of which may tend to convey the belief that the product originated in Honolulu or Hawaii and was imported into the United States. He will also cease labeling or otherwise referring to the product as "Hawaiian Pikaki" to imply that it has been compounded in Hawaii from the flower of that name, when such is not a fact. If the words "Hawaiian Pikaki" are used to describe the simulated odor of the product, the stipulation provides that such words shall be accompanied by other words in type equally as conspicuous to indicate clearly that the perfume is not compounded from such Hawaiian flowers and that its fragrant odor is other than genuine.

Vitamin F Stipulation

Jean Jordeau, Inc., trading as Madame Berthe, South Orange, N. J., has entered into a stipulation with the Federal Trade Commission to stop advertising that the facial preparation designated as Zip "Vitamin F" Creme, nourishes the skin, has any effect on the natural oil of the skin or is a tissue-building cream. The company will also discontinue using the term "Vitamin F" as part of its trade name for the product, and to cease representing that the preparation contains Vitamin F, unless and until it contains some ingredient generally identified and recognized as Vitamin F by a majority of reliable scientific authorities.

Vitamin F Citation

The Federal Trade Commission has issued a complaint against T. Noonan & Sons Co., Boston charging the company with disseminating false information in the advertising of Noonan's Vitamin F Scalp Cream.

The complaint alleges that the company falsely represents that the use of the preparation will "check falling hair, promote new hair growth, prevent baldness, restore beauty and life to dry, stringy and brittle hair, and invigorate the roots of the hair."

The company is alleged to claim that dandruff or itching scalp, singly or in combination, causes men to become bald and results in women's hair becoming lifeless and colorless, when such is not the case and when the use of the product will not permanently eradicate dandruff or itching scalp.

It is further alleged that the respondent company advertises that a so-called vitamin F in its preparation is essential to healthy hair or skin; that ailments of the scalp and hair, including baldness, are due to a deficiency of vitamin F in the diet, and that the beneficial effects claimed for the product, including stimulation of the growth of new hair, are induced by the presence of vitamin F in therapeutically significant q u a n t i t y. The complaint charges that there is no essential nutritive factor which is generally recognized and characterized by a majority of the medical or biochemical professions as vitamin F, and that the ordinary diet is such that there is little likelihood of there being any deficiency in any dietary factor, the lack of which may have an adverse effect upon the scalp.

Pomay Will Not Reduce Weight

Jay Thorpe Inc., New York, dealer in Pomay RX 7 ointment, has entered into a stipulation with the Federal Trade Commission to cease advertising that the use of its product alone or as a part of any method or treatment will cause any reduction in weight. The company admits that its product has no efficacy either by itself or as a part of any method or treatment for reducing weight. According to the stipulation, Pomay was advertised as a "new reducing cream" capable of reducing "inches and pounds," and it was represented that "enthusiastic clients have been reporting loss of weight averaging two pounds a day."

Corday Cited by F. T. C.

The Federal Trade Commission has issued a complaint against Parfums Corday, Inc., New York, charging the company with unfair competition and deceptive acts and practices in connection with the sale of perfumes.

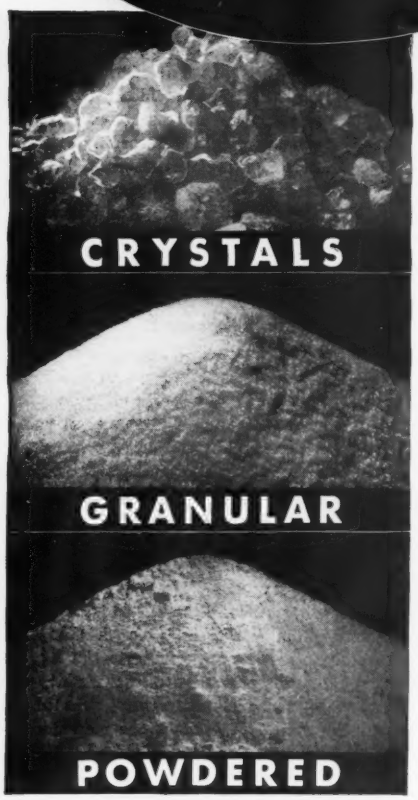
The company is charged with representing that certain of its perfumes are manufactured in France and imported into the United States when they are made in this country from essential ingredients imported from France.

The complaint charges that Empress Cosmetics, Inc., imports the ingredients, and after compounding them into perfume by the addition of alcohol, sells the finished product in bulk to the respondent company, which bottles and advertises it and sells it to retail dealers.

EXCHANGE CITRIC ACID U.S.P.

WHERE EXCHANGE CITRIC ACID IS MADE

Exchange Lemon Products Co.
Corona, California



Exchange Citric Acid U. S. P. is made by the Exchange Lemon Products Company of Corona, Calif. Backed by the Sunkist group of 13,500 citrus growers—largest in the world. Immediate shipments from warehouse stocks in New York, Chicago and Philadelphia. For prices on kegs, barrels or carloads, write nearest office.

Products Department

CALIFORNIA FRUIT GROWERS EXCHANGE

ONTARIO, CALIFORNIA

189 W. Madison St., Chicago, Illinois 99 Hudson St., New York, N.Y.

Exchange

CITRIC ACID U. S. P.

Not Rejuvenator or Vitalizer

In answer to a complaint brought by the Federal Trade Commission, Compagnie Re-Naitre, Inc., New York, engaged in the sales of cosmetics designated Re-Naitre Vitalizer and Re-Naitre Rejuvenating Cream has agreed to discontinue representing that Re-Naitre Rejuvenating Cream constitutes an adequate remedy for wrinkles, sagging muscles, aging skin or "crepey" neck; that it contains active hormones or vitamins in therapeutically potent amounts, and that it is harmless if taken internally; and that Re-Naitre Vitalizer will remove iodine stains or affect the texture of the skin and that it stimulates the tissues or improves the skin tone. The respondent company also agrees to discontinue using the words "rejuvenating" and "vitalizer" in the trade names of its preparations.

New Cuban Regulations

J. Garcia Bodonez, Counsellor at Law, Habana, Cuba, has forwarded the following translation of the new Cuban regulations: *Decree No. 2042. Whereas:* Art. 95 of Decree-Law No. 805, of April 4, 1936, provides that the registration of trade-marks distinguishing articles of precious metals, pharmaceutical, opotherapeutical, biological and veterinary preparations shall be obligatory, and that they can not be placed on sale if they are not covered by a trade-mark duly registered or applied for; and that registration of trade-marks shall likewise be obligatory for all classes of manufactured tobacco products.

Whereas: It is necessary to issue the supplementary rules of said provision of Law, in order to obtain a better observance thereof with respect to pharmaceutical, opotherapeutical, biological and veterinary preparations.

Now, Therefore: In use of the faculties conferred on me by the Constitutional Law of the Republic and other laws in force, on proposal of the Secretary of Commerce.

I RESOLVE:

First: Laboratories and factories which manufacture their products in Cuba, whether domestic or foreign, branches of Laboratories, representatives of foreign factories, or importers when no representatives of those factories exist in Cuba, are obligated to specify in a visible place on the outside of the container, wrapper or case of pharmaceutical, opotherapeutical, biological and veterinary preparations, by means of the use of a seal or band, or in any other manner, that the trade-mark distinguishing the product is registered, or, in lieu thereof, that application for it has been filed with the Department of Commerce.

The details which must be specified in the manner established in the preceding paragraph, shall in each case be the following:

(a) In the case of domestic or foreign trade-marks, the number of the title or certificate of ownership thereof, or, in lieu thereof, the number in the General Register corresponding to the trade-mark applied for.

(b) In the case of Interamerican trade-marks deposited in Cuba before the effective date of Decree-Law No. 805, of April 4, 1936, the number corresponding to the register of the Interamerican Trade-Mark Office in Havana and the date of the deposit at the Department of Commerce shall be specified; and in the case of Interamerican trade-marks deposited in this Republic after the effective date of Decree-Law No. 805, of April 4, 1936, the number of the certificate of deposit issued by the Department of Commerce, and its date, shall be specified, and if the certificate has not yet been issued, the number of the Interamerican registration and the date of presentation of the application at the Department of Commerce.

(c) In the case of International trade-marks admitted to legal protection in this Republic, the number of the International Register at Berne, and its date, and the fact that the trade-mark has been granted such protection, shall be stated.

Second: From the date of publication of this Decree in the Official Gazette, the General Inspection of Pharmacies of the Department of Sanitation and Beneficence shall not admit for registration any preparation or specialty of those comprised in this Decree, in the Register Book of Pharmaceutical Specialties, if the interested parties do not show that they have registered or applied for, in the Department of Commerce, the trade-mark distinguishing the product of preparation in question.

Third: The obligation to which the first section of this Decree refers shall be enforceable from December 1 of the present year. After that date it is positively prohibited for wholesale or retail druggists, laboratories, representatives, agents, branches and other establishments to put out in any manner the pharmaceutical, opotherapeutical, biological and veterinary preparations without complying with the requisites established in the present Decree.

Fourth: Without prejudice to the other penal and administrative liabilities which may be applicable, violators of these provisions shall be subject to the penalties specified in paragraphs third and last of Art. 248 of Decree-Law No. 805, of April 4, 1936.

Fifth: The Secretaries of Commerce and Sanitation and Beneficence are charged with the most exact fulfillment of the present Decree, to the extent that it concerns each one.

Given at Havana, Presidential Palace, September 26, 1938.

FEDERICO LAREDO,
President.

Edgardo Buttari,
Secretary of Commerce.

(Official Gazette No. 199, Oct. 4, 1938).

Delsterol Approved by FDA

Abbott Laboratories, Parke, Davis & Co., and E. R. Squibb & Sons, have been granted permission by the Food and Drug Administration to distribute "Delsterol" in oil in interstate commerce. Delsterol is a vitamin D product, patent for which is held by E. I. duPont de Nemours, made by irradiation of cholesterol.

While this is not the first application under the new Food, Drug and Cosmetics law which has been allowed to become effective, it is believed to be the first in which the name and properties of the product have been made known.

New Ruling on Country of Origin

The Treasury Department has issued regulations for the labeling of imported articles under the new Customs Administrative Act of 1938. The new act requires all imported goods, with a few exceptions, to be conspicously marked with the country of origin. While paper labels may now be affixed to imported articles which are to be combined with articles of American manufacture, after December 1 the special marking must be "permanent." In the past it has been possible for foreign manufacturers to mark their products so that the country of origin was concealed.

Ole Salthe Retained by FDA

Walter G. Campbell, chief of the Food and Drug Administration has announced that Ole Salthe, of New York, has been retained as a special consultant.

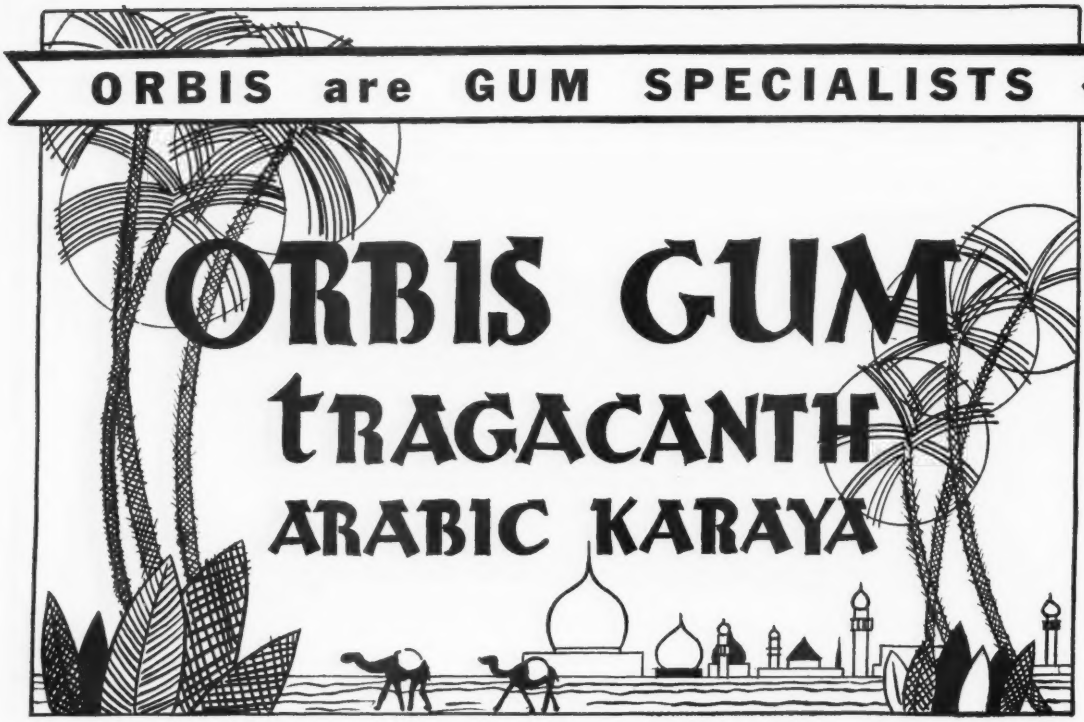
Mr. Salthe will retain his present offices in New York and will advise the officials on the drafting of food standards and drug regulations, and confer with representatives of the industries on proposed amendments to the regulations and on ways of meeting the requirements of the new act.

He was chief of the food and drug section of the New York City health department when it was headed by the late Senator Royal S. Copeland. He later joined Dr. Copeland in establishing the Copeland Service Bureau and served as technical advisor to the Senator on the various drafts of the food, drug and cosmetic law.

Show Globe Office

Earle A. Meyer, president of Show Globe Inc., and formerly executive secretary of the advisory committee on advertising of the Proprietary Association, announces that Show Globe Inc. has opened new offices in the International Building New York. Show Globe is the name which has been given to the Hall of Pharmacy at the New York World's Fair 1939.

ORBIS are GUM SPECIALISTS



Every purchase of GUM* from ORBIS is backed by knowledge and expert experience of forty years standing—both in America and in the country of origin. Many of the personnel have spent a lifetime in this industry.

ORBIS imports directly, selected GUM TRAGACANTH from Persia.

Astute knowledge of values, seasons, and localities together with constant contact with individual commission merchants assure you that the GUMS you buy from ORBIS will come from sections producing the finer natural raw gum.

ALL ORBIS GUMS* are milled at the modern ORBIS factory at Newark, N. J. Here too, long experience guarantees satisfaction for your most exacting technical requirements.

***ARABIC, TRAGACANTH, KARAYA,**
Whole or Powdered

ORBIS

PRODUCTS CORPORATION

215 PEARL STREET, NEW YORK - FACTORY & LABORATORY, NEWARK, N. J.

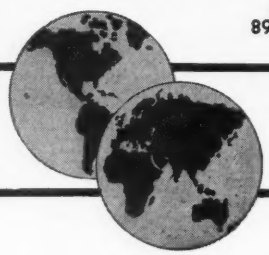
CHICAGO
831 N. Wabash Ave.

PHILADELPHIA
610 Brown Bldg.

BOSTON
89 Broad Street

CLEVELAND
15201 Elderwood Ave.

Water Soluble Gums	Waxes	Cosmetic Raw Material	Fruit Flavors
Thymol	Stearic Acid	Oleo Resins	Food Colors
Aromatics	Essential Oils	Perfume Bases	Quince Seed
Rice Starch	Zinc Oxide French	Olive Oil	Irish Moss



NEWS

Associations

Wafer to Head Salesmen

At the annual meeting of the Salesmen's Association of the American Chemical Industry the nominating committee was elected to prepare a list of officers for the coming year.

The slate of officers prepared by this committee which will be voted upon by mail is as follows: president, Joseph M. Wafer of Industrial Chemical Sales Division of West Virginia Pulp & Paper Co.; vice-president, B. F. Sheehan of the Grasselli chemicals department of E. I. du Pont de Nemours & Co.; treasurer, DeWitt Thompson of Mathieson Alkali Works and secretary, C. Oscar Lind of Dow Chemical Co. Nominated for a three year term on the executive committee were: Ray H. Giebel of Harshaw Chemical Co. and George A. Bode of R. & H. chemical division of E. I. du Pont de Nemours & Co.

Show Globe Dedication

Plans for the dedication of the drug industry's building at the New York World's Fair, Sunday, November 13, were completed by Dr. Wm. Jay Schieffelin, chairman of the dedication committee. "It promises to be a ceremony of which the drug industry may well be proud," Dr. Schieffelin said, "and we are particularly pleased that it will take the form of a tribute to our great ally, the American Red Cross."

The dedication ceremonies, Dr. Schieffelin added, will open with music, followed by an address by Mayor Fiorello LaGuardia. Joseph A. Huisking, chairman of the drug industry's participation in the Fair, will speak for the industry in paying tribute to the Red Cross. James L. Fieser of Washington, vice-chairman of the American Red Cross, will make that organization's response.

Included in the musical program will be a tableau by a group of Red Cross nurses. A Red Cross group also will raise the American flag over the industry's building. The flag of the International Drug Club, a social and business relations organization to be made up from amongst the 60,000 retail druggists, drug manufacturers and wholesalers in this country and Canada, will be raised by a young woman pharmacist who will be the first member to join the club.

The World's Fair grounds have not been open to the public except on special occasions or when an admission fee has been charged. The dedication of the drug industry's building was planned for Sunday afternoon to enable pharmacists from greater New York not only to attend the dedication of their own building but also to inspect the Fair grounds. Ten thousand retailers, wholesalers and manufacturers are expected to be present in what will be the largest group in which the industry has ever congregated. Admission will be by card only.

One of the largest buildings at the Fair with its 25,000 feet of exhibition space and an additional 10,000 square feet for a focal exhibit, the drug building is also setting the pace in rapid renting. The interior of the building, from the drawing board of Harvey Wiley Corbett, has three main sections:

(1) The March of Pharmacy section, which will tell the dramatic story behind the symbol Rx; (2) the medicine cabinet section, containing a giant medicine cabinet in which fourteen-foot marionettes will dramatize the scientific medicine chest as the first line of defense against infection and disease; (3) the drug store section featuring the drug store of yesterday, today and tomorrow, with famous drug stores of the past and a streamline version of the future.

The drug store section will also contain a baby exhibit, built around a seven-foot animated baby enthroned on a highchair and surrounded by blocks. Each block will tell a charted story pertaining to the comfort and welfare of babies. Fencing in the blocks, illuminated panels will flash pictures of all the "babies" of the animal kingdom.

The baby section will be alive with humorous animated dolls representing babies of all nations; and animated knomes will tell fathers and mothers what every baby wants his parents to know.

Phila. Drug Ex. Fall Outing

The fall outing of the Philadelphia Drug Exchange was held at the Manufacturers' Country Club, Oreland, Pa., October 19. A golf tournament was held in the afternoon, prizes for which were awarded at the dinner following it. R. G. Anderson of Merck & Co., Philadelphia, was chairman of the entertainment committee.

ARTISTS' CONCEPTION OF THE SHOW GLOBE

Companies

Penick Transfers Campbell

Douglas P. Campbell has been made South-Eastern representative for S. B. Penick & Co. He will cover the territory along the Atlantic seaboard from Virginia to Florida and west through Alabama. He will make his headquarters in Atlanta.

Mr. Campbell has been associated with S. B. Penick & Co. for many years. He first represented the company in the North-West, making his headquarters in Minnesota. His next advancement was a transfer to the Mid-West territory with headquarters in Chicago. His transfer to the South-Eastern territory comes as a reward for his success in his former fields.

Owens-Corning Fiberglass Corp.

A new company, the Owens-Corning Fiberglass Corp., has been formed by Owens-Illinois Glass Co. and the Corning Glass Works. The new company will produce a variety of products made from fiber glass, which are expected to promise revolutionary developments in many fields of insulation, construction and industrial design.

The new corporation is financed jointly by Owens-Illinois and Corning and is an independent structure which will not operate as a subsidiary of either parent company and in which no stock will be offered to the public.

Harold Boeschenstein has resigned as vice-president and general manager of Owens-Illinois to become president of the new company. Amory Houghton, president and director of Corning Glass Works, is chairman of the board. Besides Mr. Boeschenstein and Mr. Houghton, other members of the board are: C. B. Belknap, executive vice-president of Owens-Illinois Glass Co.; U. E. Bowes, director of research, Owens-Illinois Glass Co.; Glen W. Cole, vice-president, Corning Glass Works; William E. Levis, president; Owens-Illinois Glass Co., and George D. Macbeth, vice-president Corning, Glass Works.

The principal offices of the company will be in Toledo and the New York office will be at 718 Fifth Ave. Other sales offices will be located in Boston, Washington, Chicago, Detroit, Pittsburgh, Cincinnati and San Francisco.

Riboflavin Bulletin

A "Merck Service Bulletin" dealing with Riboflavin Merck has been mailed to proprietary and pharmaceutical manufacturers by Merck & Co., Rahway, N. J.

The bulletin describes the physical characteristics, structural formula, melting point, stability, solubility, etc. of the product. Its dosage and present status in human nutrition are discussed and recent experimental investigations, including observations on the manifestations of Riboflavin deficiency in experimental animals, are summarized. Copies are available to drug manufacturers upon request.

DeCesare Heads White Labs.

At a meeting of the board of directors of White Laboratories, Inc., Newark, N. J., on October 11, James C. DeCesare was elected president of the company. William H. Berg was chosen chairman of the advisory board and Herman E. Willer, a director of the company, was made chairman of the board.

Mr. DeCesare has been associated with the company since its inception sixteen years ago. In 1924 he was appointed sales manager and in 1931 he was elected vice-president and treasurer and a member of the board of directors.

Felton Stops Albek

In the California superior courts at Los Angeles, the honorable Goodwin J. Knight has enjoined Albert Albek, Albert Albek, Inc., and other defendants from dealing in the line of products of Felton Chemical Co., Inc., of Brooklyn, New York, for a period of approximately two years.

The Felton Chemical Co., Inc., filed two suits against Albert Albek, Albert Albek, Inc., and others, alleging that they were unlawfully withholding property and business records of the Felton Chemical Co. and had violated and unlawfully breached the contract theretofore existing between Felton Chemical Co. and Albert Albek, under which the latter had acted as agent.

The court adjudged that Albert Albek, Albert Albek, Inc., and the other defendants were unlawfully holding property and records of Felton Chemical Co. and ordered their return. The court then issued the injunction prohibiting all defendants from soliciting, selling to, or in any other manner dealing with the specified customers of Felton Chemical Co., Inc., in California, in the line of products theretofore sold by Albert Albek and Albert Albek, Inc., for Felton Chemical Co., at agent. The court, in addition thereto, assessed damages and costs against the defendants in the amount of approximately $8,600.

The court also issued a permanent injunction against all of the defendants from using, or divulging, any knowledge or information gained by virtue of the confidential relationship which had theretofore existed; also from imitating the literature, advertising, or packaging of Felton Chemical Co., Inc., or from representing in the trade, the existence of any business relationship between the parties. It is understood that no appeal will be taken from any part of the court's decision.

Norwich Moves in New York

The Manhattan warehouse of Norwich Pharmacal Co. has been closed and shipments for the metropolitan area will be made in future direct from the plant in Norwich. Turner F. Currens, vice-president has taken new offices in the McGraw-Hill Building, New York.

Juliette Marglen Reorganized

Juliette Marglen Products, Inc., has been reorganized and taken over by Prindle & Grant, New York, who will handle the business from that city, with the factory and a small office in Hollywood. The Juliette Marglen salon is now an entirely separate enterprise which plans to launch a new line of creams to be known as The House of Marglen.

Eugene Coleman, Jr., is no longer connected with either organization. He will announce his future plans after January first.

Schimmel Appoints Representatives

In order to increase its outlets throughout the country, Schimmel & Co., New York, has appointed the following new representatives: K. H. Driggs, 15201 Elderwood Ave., East Cleveland; W. J. R. Alexander, 111 East Fourth st., Cincinnati; and Industrial Chemical & Processing Co., 3901 South Carrollton ave., New Orleans. They will supplement the Schimmel branches already established in Chicago, Los Angeles and Toronto.

Anchor Hocking in Chicago

All of the Chicago sales offices of the Anchor Hocking organization have been consolidated in the Merchadise Mart, that city. This brings together in one convenient central location the Hocking Division and the Container Division of Anchor Hocking Glass Corp., as well as the offices of Anchor Cap & Closure Corp., and makes available for consultation on customers' problems a combined staff of experienced packaging and merchandising men.

Sherwood Moves to Englewood

Sherwood Petroleum Co. is occupying new quarters at Englewood, N. J. Additional space has been provided for the company's subsidiaries—Sherwood Petroleum Co., Inc., (La.), Sherwood Refining Co., Standard Aromatics, Inc., and Lacquers, Inc.

Vitamin B_1 Process to Roche

The patent for a process of manufacturing vitamin B_1 formerly owned by Max Klingenfuss, Basel, Switzerland, has been transferred to Hoffmann-LaRoche, Inc., Nutley, N. J. Hoffmann-LaRoche has for some time been marketing a synthetic vitamin B_1 called "Berocca."

Merrell Adds to Staff

In order to expand further into the scientific and medical fields, the William S. Merrell Co., Cincinnati, continues to enlarge its research staff.

Most recent additions to the staff of the Merrell Scientific Laboratories are: Marcus George Van Campen, Jr., Ph.D., Cornell University and recently associated with the Mellon Institute; L. Lavan Man-

THE IDEAL OF BUILDING *a better product*

"If a man can write a better book, preach a better sermon, or make a better mouse-trap, than his neighbor, though he builds his house in the woods, the world will make a beaten path to his door."—EMERSON

PRESENT-DAY merchandising does not permit the modesty of sitting and waiting for the world to come to you. But the ideal of building maximum quality into a product has lost none of its importance.

Few businesses can survive without repeat sales. And no matter how great the fanfare of sales and advertising, only the quality and performance of the product itself, can determine the percentage of repeat buyers.

Today, hundreds of pharmaceutical manufacturers know that only Baker's standards of quality—*measured purity by the ton*—are adequate to safeguard the reputation and the repeat sales of their products. Each Fine Chemical produced by Baker, must meet predetermined and exacting standards. These standards are so high that the manufacturer is assured of a dependable margin of safety. He knows no worry over this division of his business.

Baker salesmen are worthy representatives of Baker ideals. Have a talk with a representative; arrange for test samples of Baker products. Your confidence will be respected; you can make your own tests of Baker quality.

J. T. BAKER CHEMICAL CO., Phillipsburg, New Jersey

NEW YORK	PHILADELPHIA	CHICAGO
420 Lexington Avenue	220 South 16th Street	435 North Michigan Ave.

Baker's

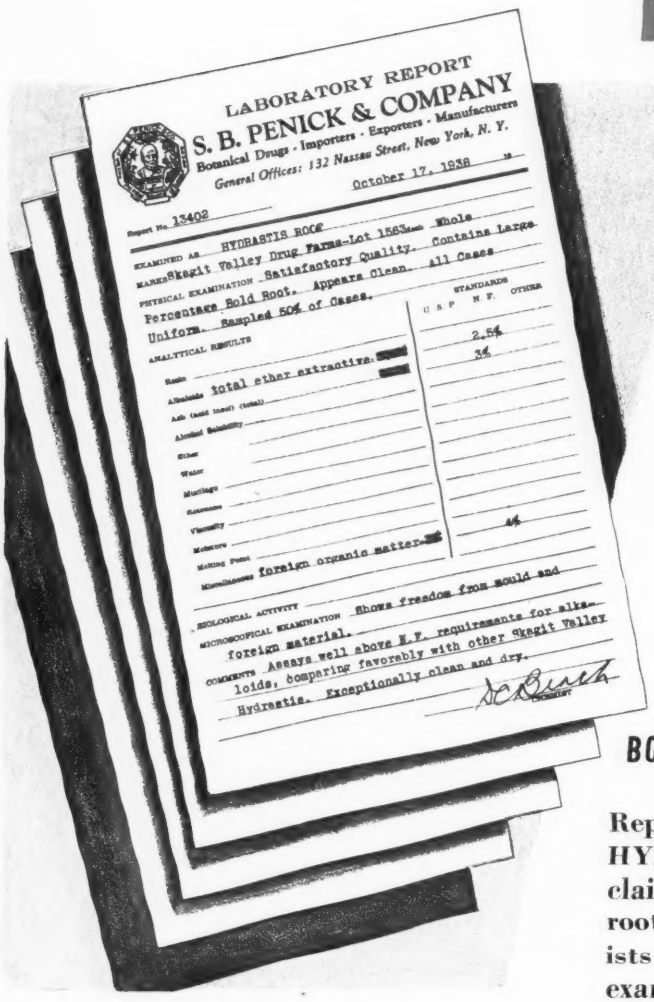
A partial list of Tonnage Fine Chemicals held under rigid control, at no price premium.

- Alkali Bromides
- Potassium Iodide
- Magnesium Oxide
- Cream of Tartar
- Bismuth Subcarbonate—Subnitrate and other Salts
- Caustic Potash and Soda Sticks and Pellets
- Rochelle Salt
- Lead Acetate
- Salicylates

Baker's fine chemicals

for Pharmaceutical Manufacturers

LABORATORY REPORT No. 13402


LABORATORY REPORT
S. B. PENICK & COMPANY
Botanical Drugs - Importers - Exporters - Manufacturers
General Offices: 132 Nassau Street, New York, N. Y.
October 17, 1938
Report No. 13402
EXAMINED AS HYDRASTIS ROOT
MARKED Skagit Valley Drug Farms-Lot 1563 Whole
PHYSICAL EXAMINATION Satisfactory Quality. Contains Large Percentage Gold Root. Appears Clean. All Cases Uniform. Sampled 50% of Cases.
ANALYTICAL RESULTS
STANDARDS
U S P N F OTHER
Total ether extractive.
2.5%
3%
4%
BIOLOGICAL ACTIVITY
MICROSCOPICAL EXAMINATION Shows freedom from mould and foreign material.
COMMENTS Assays well above N.F. requirements for alkaloids, comparing favorably with other Skagit Valley Hydrastis. Exceptionally clean and dry.

BOTANICAL RAW MATERIALS must prove themselves worthy of the PENICK label. Thousands of lots are rigidly assayed in our Laboratories every year by specially trained chemists and pharmacognocists. Employing the most up-to-date chemical, physical, microscopical and biological methods these experts assure PENICK buyers and PENICK customers that each and every lot meets the PENICK standard for . . .

BOTANICALS OF THE HIGHEST QUALITY

Representative of PENICK assays are HYDRASTIS laboratory reports. No mere claims about "good quality", "clean root," "high test," and so on. Our chemists take carefully grown HYDRASTIS—examine and test it—and set down their findings in black and white. Eliminated are the risks of alkaloid deficiency, excessive moisture and ash.

You can use any tested PENICK botanical with the confidence that it is representative of the world's largest stock of quality Botanical Drugs.

If It Grows

--- ask Penick

S. B. PENICK

132 NASSAU STREET, NEW YORK

THE WORLD'S LARGEST BOTANICAL DRUG HOUSE

"Produced by Penick"

. . . . *Your Assurance of Quality*

High indeed is the Penick standard of quality in the production of alkaloids, resinoids, solid extracts, a host of botanically-derived products. Technically trained workers control every process of production. Test after test, assay after assay, constant laboratory vigilance —have placed the indelible stamp of purity and uniformity on Penick products.

Our manufacturing department is equipped to produce, on special orders, many items not regularly carried in stock. Produced exclusively for pharmaceutical and other manufacturing firms, are:

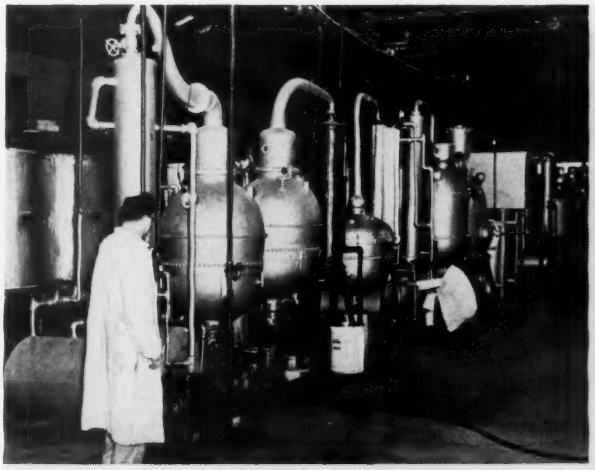
PYREFUME (Pyrethrum ext.)

DERRIS EXTRACT

ROTENONE

HIGH POTENCY FISH LIVER OILS

SOLID AND POWDERED EXTRACTS



One line of production equipment used in the process of extraction of botanical drugs at the new Penick Manufacturing Plant in Lyndhurst, New Jersey.

ALOIN U.S.P.

ASPARAGIN

BERBERINE BISULPHATE

BERBERINE HYDROCHLORIDE

BERBERINE SULPHATE

CHRYSAROBIN

COLCHICINE U.S.P.

EMETINE HYDROCHLORIDE

EPHEDRINE U.S.P.

EPHEDRINE HYDROCHLORIDE U.S.P.

EPHEDRINE SULPHATE U.S.P.

HYDRASTINE (WHITE)

HYDRASTINE HYDROCHLORIDE N.F.

HYDRASTINE SULPHATE

PILOCARPINE HYDROCHLORIDE N.F.

PILOCARPINE NITRATE U.S.P.

PODOPHYLLIN U.S.P.

SALICIN N.F.

SCAMMONY RESIN N.F.

Ask to be placed on the "Price List and Manual" mailing list.

& COMPANY

1228 W. KINZIE STREET, CHICAGO

THE WORLD'S LARGEST BOTANICAL DRUG HOUSE

ETHAVAN

(ETHYL VANILLIN)

NOW AVAILABLE AT LOW COST!

Ethavan is coming into its own as a flavoring for foods because improved manufacturing facilities and greater demand have now made possible a new reduction in price.

Vanilla-like in flavor, Ethavan has a relative flavoring strength approximately three times that of Vanillin, and its cost, based on flavoring strength, is lower than Vanillin. Its more pronounced aroma and flavor are winning steadily increasing uses in the preparation of chocolate, icings and fillings, fruit flavors and confections.

Samples, further information and prices will be sent on request.

Monsanto Chemical Company
St. Louis, U. S. A.

...ration Starts ...ilfred Academy

...ration has started at Wil... ...ademy of Hair and Beauty ... 833 Broad street, for ... opening September 6. The ...k school is one of the Wilfred ..., which operates in Boston, ...lyn, New York, Philadelphia, ...burgh and Chicago.

...e Wilfred system has won ...est awards in this and other ...tries and has enrolled pupils ...only from this country, but from ...ope, South America and Aus... ...lia. The course is based on scien... ...c fundamentals and provides in... ...ridualized instruction. The in... ...ructors are expert in the beauty ...ulture and have had teacher... ...raining.

Classes are conducted both in the ...ay and evening. The school main... ...ains a free employment bureau for ...its graduates and at its various cen... ...ters places 3,000 or more graduates yearly.

David M. Malovany is head of the local academy. The public is invited to visit any of the schools in the system and are conducted through the classrooms to see the pupils at work.

C. Vincent Geiger to Be Head of Verona Schools

Verona schools will have a new supervising principal, C. Vincent Geiger, when classes open next month.

C. Vincent Geiger

Geiger, former principal of Thomas H. Edison Junior High School, West Orange, succeeds Frederic N. Brown, who retired June 30 after 35 years' service in Verona.

Two Motors, Single Propeller for Plane

BURBANK, Cal. (AP)—Early next year an airplane with two engines, but only one propeller will make its appearance in the skies.

Vega Airplane Co., subsidiary of Lockheed, announced today speci... ...Lockheed ... the twin plane with ... under

Approves U. S. Grant For Shore Jetty

Special to Newark News.

SPRING LAKE—Spring Lake officials received word from PWA yesterday an application for a $31,300 grant for a $67,000 jetty building program had been approved.

Manasquan authorities received approval from the New Jersey Board of Commerce and Navigation of plans for a $140,000 groin building project along the beachfront and were notified the Monmouth freeholders would grant $21,000 as the county's share of the cost.

Approval of the local project will put in motion final plans for repairing 13 low wooden jetties and construction of two similar ones. ... County had notified ... of $10,000

For Doctors' Aides

The Mandl School for Medical Assistants in New York announced today the extension of its course from nine months to a year.

Increased training is necessary for medical assistants, school officials said, to meet the demands of the better equipped physician. This training demands knowledge of at least five blood chemistries and X-ray in every detail, they said, as well as secretarial ability.

Because of specific requests from doctors for trained assistants who can perform office duties and meet patients intelligently, with personality and poise, officials said it would be necessary to continue to limit registration in an effort to raise standards.

They added, however, that in order to attract girls of ability and personality, biannual examination will be held for full scholarships.

...ourses

...included ...School of ...way, New ...rm opens ... work will ...n writing, ...chnic and

...ol director, ...s in journal... ...g along prac... ...uirements of ... and for the

... to Youths ... Priesthood

...on Seminary in ... school and col... ...ng men wishing ...and missionaries ... Order. Classes ...er 12.

... a preparatory ...ower Monastery, ...The monastery is ...ame grounds. Rev. ... is prior of the ...Rev. Benno Heckel ...eminary.

Blessed Sacrament Has Placemen

The commercial de... Blessed Sacrament Sch... 21st year in Septembe... jects taught are: Reli... raphy, typewriting, En... bookkeeping, mimeog... ing machine and filin... ing is to prepare the ... eral office work.

The Sisters of St. ... the faculty and Re... O'Neill, the pastor.

The school maintr... service for its grad...

Susquehanna ... Launch...

Susquehanna ... grove, Pa., will ... this fall. It ho... crediting by th... sociation of Am... offers pre-prof... eral business ... mercial educat... liberal arts, pu... soloist's cours...

...the delinite commitment to force ...and violence in bringing about the overthrow of our government."

Bridges Said He Saw Files

Dies said Bonham wrote Edward J. Shaughnessy, deputy immigration commissioner, last September 20: "I believe it proper that I acquaint the central office with the (fact that I interviewed Mr. Bridges some time ago * * * he boasted he had seen the central office file relating to himself and also that they had an excellent 'intelligence' organization of their own that kept them well informed."

Bonham urged Shaughnessy to guard names of witnesses to appear against Bridges in order to prevent any "leak." He expressed the belief in other correspondence that there was an "airtight" case against Bridges.

Dies quoted sworn testimony of a witness who said Bridges, while looking at United States battleships, ... "We will see a day ... damn

chey, Ph.D., University of Maryland; Lee Clement Huyck, Ph.D., University of Florida; Benjamin Ramage Harriman, Ph.D., Pennsylvania State College; and Theodore John Becker, Ph.D., University of Wisconsin.

These men whose work is well represented in scientific and medical literature, bring to the Merrell company valuable experience in pharmacology, physiology, organic and pharmaceutical chemistry, biochemistry and other fields closely related to medicine and pharmacy.

Dr. E. G. Gerwe is director of the laboratories and Dr. R. S. Shelton is assistant director in charge of organic and pharmacological research.

Eno and Beecham Merge

A merger of Eno Proprietaries and Beecham's Pills Ltd. has been brought about by an exchange of shares, five deferred shares of 2/6 each in the capital of Beecham's being credited as fully paying for eight ordinary shares of 5 each in Eno.

Eno Proprietaries in addition to controlling all of the Eno "Fruit Salt" companies throughout the world, owns the controlling interest in Harold F. Ritchie & Co., New York, the Thermogene Co. and Scott & Bowne, Bloomfield, N. J.

M. M. & R. Exhibit

An exhibit of old dispensatories from the Magnus, Mabee & Reynard library has been placed on display in the lobby of the company's new building at 16 Desbrosses st., New York. Included in the exhibit is the James Thatcher, American New Dispensatory of 1810, the American Dispensatories of 1814, 1818, 1827 and 1831 by Dr. John Redman Coxe, the New Dispensatory of the United States of America of 1836 by Wood & Bache, and the English Dispensatory of 1722 by Dr. John Quincy.

Remus Heads Standard Synthetics

In the October issue of this magazine, it was stated that John Wilhelm would direct the American agency of Standard Synthetics Co. This new New York office of the company is under the direction of Edward Remus. John Wilhelm is also connected with the office.

People

Weco Products Appoints Day

Paul L. Day has been appointed divisional sales manager of Weco Products Co., Chicago, in charge of Cleveland, Columbus and Cincinnati. He will make his headquarters at 15200 Onaway Rd., Shaker Hts., Cleveland. Mr. Day was formerly head of Weco's Kee handkerchief department.

Orrick Joins National Drug

Walter H. Orrick is now field supervisor for the National Drug Co., Philadelphia. He was formerly branch office manager in Columbus, O., for Sharp & Dohme.

F. J. Lueders Married

Frederick J. Lueders, vice-president and son of the founder of George Lueders & Co., New York, was married October 12 at Summit, N. J., to Miss Agnes Fashinbauer of St. Paul, Minn.

Andre Firmenich Visits Here

Andre Firmenich, a partner in the Swiss firm, Chuit Naef & Cie, Geneva, arrived in New York, October 18 for a month's visit. He will make his headquarters at the

ANDRE FIRMENICH

offices of Firmenich & Co., New York. While here he will make a trip through the mid-west accompanied by R. C. Watson, sales manager and vice-president of the American company.

Barbier of Givaudan Visits Here

Henri Barbier arrived in this country October 20 for a visit to Givaudan-Delawanna Inc. Mr. Barbier is the senior research chemist of L. Givaudan & Cie., Vernier, Geneva, Switzerland, and will spend some time in this country conferring with Dr. Eric C. Kunz and other executives of Givaudan-Delawanna, Inc.

Vick Names Geachy Production Mgr.

R. W. Geachy, purchasing agent for Vick Chemical Co., Inc., Greensboro, N. C., has been made production manager of the company. He has been succeeded as purchasing agent by George Eichhorn, formerly assistant purchasing agent.

Bowman–I. V. C. Vice-President

Simon Lubarsky, president of International Vitamin Corp., New York, has announced that Charles L. Bowman has been elected vice-president of the company. Mr. Bowman, a specialist in vitamin B complex, was formerly vice-president of Vitab Products, Inc. and the founder of the original company.

Shaw of Mennen Returns

Oliver Shaw, foreign sales manager of the Mennen Co., Newark, N. J., has returned from a five-months' trip to South and Central America, Mexico and Cuba.

Spang Joins Gillette

J. P. Spang who has been vice-president in charge of sales of Swift & Co., Chicago, has resigned to become executive vice-president of Gillette Safety Razor Co., Boston.

King Forms Package Agency

Everett W. King, for the past fifteen years director of design and sales outside of Rochester for the Lorscheider-Schang Co., box makers of that city, announces

EVERETT W. KING

the opening of his own package creating agency. He plans to open a display room and studio in New York and will maintain a branch office in Connecticut to serve Westchester and Connecticut clients. Temporarily he is operating from the New York office of Lorscheider-Schang Co.

He is well known in toilet goods and other fields for a long list of successful packages for such concerns as: American Distilling Co., Elizabeth Arden, Harriet Hubbard Ayer, Charles of Ritz, Elmo, Richard Hudnut, Kent Brush, Lehn & Fink, Mohawk Brush, A. G. Spalding, United Drug Co., Wahl-Eversharp, L. E. Waterman.

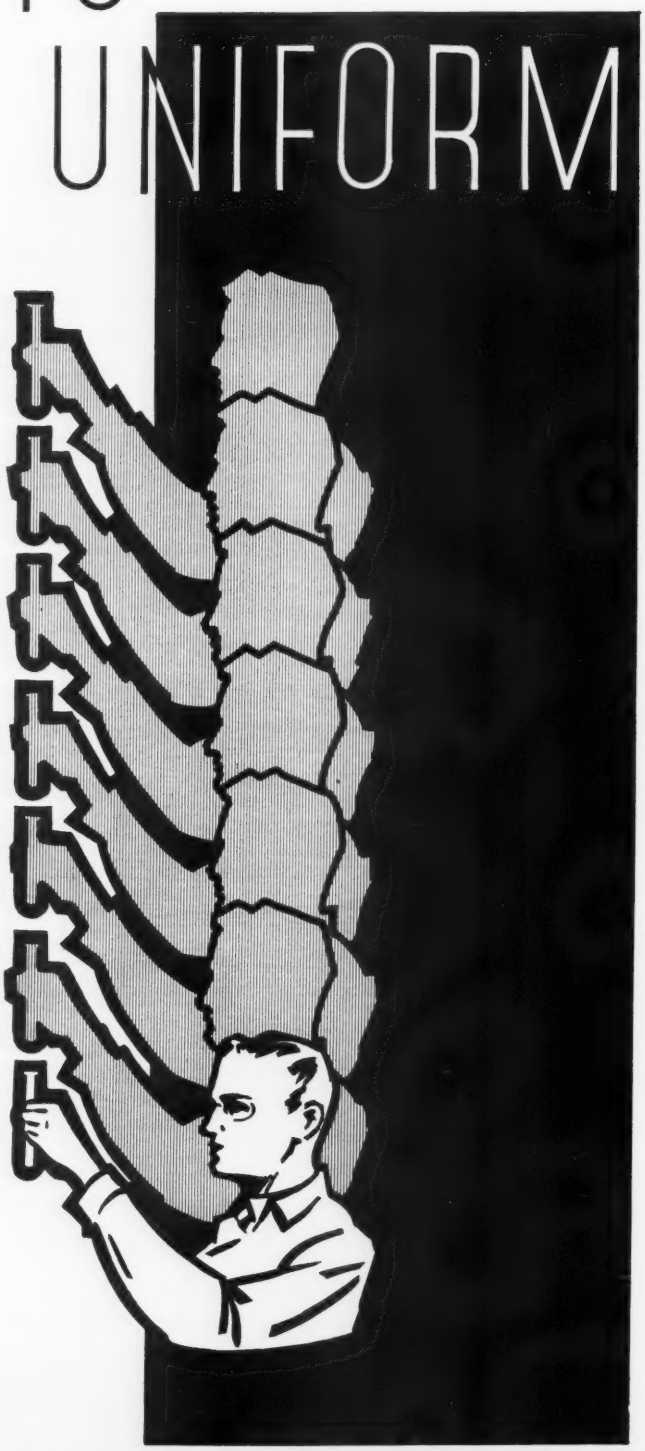
Remington Medal to Christensen

The Remington Honor Medal for 1938 will be awarded to Dr. H. C. Christensen, secretary of the National Association of Boards of Pharmacy, Chicago, at a testimonial dinner at the Hotel Pennsylvania, New York, on November 30.

Otto F. A. Canis of the Fordham College of Pharmacy will serve as toastmaster and the speakers will include D. J. Leon Lascoff, president of the American Pharmaceutical Association; Dr. E. F. Kelly, secretary of the association, and Dr. Robert L. Swain, deputy food and drug commissioner of the state of Maryland. Dr. Henry V. Arny, dean Emeritus of the Columbia University College of Pharmacy, will present the medal to Dr. Christensen.

ALWAYS UNIFORM

Kolmar Products maintain uniformity and particularly high standards of excellence by the skilled research of seven chemists, each an expert in his own particular field.



Write today for further information about Kolmar products: Lustra Lipstick, Smooth-as-Silk Dry Rouge, Cream Rouge, Serrate Puffs, Eye Shadow, and Face Powder.

We manufacture cosmetics for private label brands only. We do not compete with our clients. We also protect the interests of our clients with Products Liability Insurance.

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Warren Curry . . . . . 3950 Club Drive, Atlanta, Ga.
R. G. F. Byington 155 N. Vermont Ave., Los Angeles, Cal.

Corliss Retires from D. & O.

W. H. Corliss, manager of the Boston branch of Dodge & Olcott Co., has retired after forty-seven years with the company.

He first became associated with Dodge & Olcott in 1891 and has been manager of the Boston office since 1899. He and Mrs. Corliss intend to spend the first six months of their leisure with their son, who is a doctor in Yuma, Arizona.

Frank J. McCarthy who has been Mr. Corliss' assistant at the Boston branch for several years succeeds him as manager of the branch.

Lewitus Joins Hoffmann-La Roche

Victor Lewitus has become associated with the promotion department of Hoffmann-LaRoche, Nutley, N. J. Mr. Lewitus is a former Columbia University professor.

United Drug Advances Kennison

George P. Kennison is now advertising and sales promotion manager of United Drug Co., Boston. He was formerly assistant advertising manager.

Rubinstein Appoints Fenton

Fleur Fenton, executive vice-president of Pettingell & Fenton, Inc., has been appointed sales promotion and advertising counsel by Helena Rubinstein, Inc. Horace Titus continues as director of advertising and sales promotion.

Baron and Baroness Wrangell Join Helena Rubinstein

Baron and Baroness Charles Wrangell have joined Helena Rubinstein, New York. Baron Wrangell will act as special representative for the organization in the territory west of the Rocky Mountains, and Baroness Wrangell will cover the same territory as a special beauty lecturer.

Logue Rejoins Monsanto

Paul Logue has rejoined the phosphate division of Monsanto Chemical Co., with headquarters in St. Louis. Mr. Logue was for several years chairman of the Osborne Medal award committee of the Association of Cereal Chemists. He is active in that association as well as in the American Chemical Society and American Institute of Chemical Engineers.

Perkin Medal to Landis

Dr. Walter S. Landis, vice-president of the American Cyanamid Co., New York, has been chosen to receive the Perkin Medal of the Society of Chemical Industry for 1939. The medal is awarded annually for valuable work in applied chemistry and will be presented to Dr. Landis for his work on cyanamid and phosphates at a meeting to be held at the Chemists' Club, New York, on January 6, 1939.

Bob Quinn Back on Job

Robert J. Quinn, assistant sales manager of Mathieson Alkali Works, New York, has returned to his office after an illness which kept him away for six weeks.

Shannon Represents Princess Pat

P. W. Shannon is now representing Princess Pat, Chicago, in Indiana, Iowa, Michigan and Minnesota.

Desmond in Lueders 25 Year Club

An interesting ceremony was held at the office of George Lueders & Co., New York, October 19, when Robert Emmett Desmond, manager of the company's Pacific Coast branch, was made a member of the Twenty-Five Year Club, becoming the twenty-seventh member of this honor organization.

Mr. Desmond was presented with the company's service pin and with a handsome wrist watch bearing the inscription, "In appreciation of twenty-five years' service well done." The club presented him with a traveling bag.

E. V. Killeen, president of the company made the presentation and recalled the days when he first knew Mr. Desmond, early in the century, when Mr. Desmond was secretary and general manager of the Sanitol Chemical Laboratories of St. Louis.

At the conclusion of the ceremonies, Mr. Desmond was entertained at lunch.

Ernst Weill Seeking Connection

Ernst Weill, president of Parfa Parfumerie & Cosmetique S. A., Zurich, Switzerland, is spending several weeks in this country. The Parfa company, a member of the Swiss Cosmetic Manufacturers' Association, manufactures a complete line of perfumes and cosmetics. It has a large sales organization and contacts with all the big Swiss department, drug and perfumery stores as well as with the leading Swiss hairdressers.

While he is here, Mr. Weill would like to make a connection with some American company which would be interested in collaborating with the Parfa company. Mr. Weill, who is here with his wife, an American, and his family, is making his headquarters at the Hotel Salisbury in New York.

Financial

Abbott Earnings Up

Abbott Laboratories reports for the nine months ended September 30 a net profit of $1,405,000 equivalent to $2.08 a share and comparing with a net profit of $1,327,000 or $2.07 in the same period last year.

The consolidated sales this year totaled $7,335,000 as compared with $7,197,000 for the first nine months of last year.

Amer. Home Earnings Off

American Home Products Corp. and subsidiaries report for the nine months ended September 30 net profit of $2,130,350, equivalent to $2.80 each on 759,707 shares of capital stock. This compares with a net profit in the same period last year of $2,312,482, or $3.12 each on 741,060 shares.

For the September quarter the net profit was $775,253, equivalent to 95 cents a share on 811,858 shares and comparing with $613,543, or 83 cents each on 741,060 shares in the preceding quarter, and $759,821, or $1.03 each on 741,060 shares in the same quarter of last year.

Anchor Hocking Earnings

Anchor Hocking Glass Corp. and subsidiaries report for the nine months ended September 30 a net profit of $501,589, equivalent to 42 cents a common share.

Bristol-Myers Earns More

Bristol-Myers Co. and subsidiaries report for the September quarter net profit of $828,580, equal to $1.21 each on 682,864 shares of $5-par common stock. This compared with a net profit of $393,059, or 58 cents a share on 682,864 shares in the June quarter and $658,644, or 96 cents each on 685,368 shares in the September quarter of 1937.

For the nine months ended September 30 the net profit was $1,806,143, equal to $2.64 a share, and comparing with $1,858,226, or $2.71 a share, in the first nine months of last year. For the twelve months to September 30 the profit was $2,182,919, or $3.19 a share, against $2,160,364, or $3.15 a share for the twelve months to September 30, 1937.

Dow Earns Less Per Share

Dow Chemical Co. reports for the quarter ended August 31 net profit of $838,703, equal to 81 cents each on 945,000 common shares and comparing with $1.42 a share in the quarter ended August 31, 1937.

At a meeting of the board of directors of the company held October 18, dividends were declared payable November 15 to stockholders of record November 1 as follows: on preferred stock of deposit receipts therefor 1¼ per cent.; on common stock without par value, 75 cents per share.

Gallaher Drug Earns Less

Gallaher Drug Co. reports for the year ended June 30 a net income of $98,362, equal to $8.28 each on 7,500 common shares and comparing with $109,391 or $9.75 a common share in the year ended June 30, 1937.

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Producing Plant: The Exchange Orange Products Company, Ontario, California

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Gillette Razor Earnings Down

Gillette Safety Razor Co. and subsidiaries report for the nine months ended September 30 a net profit of $2,061,723, equal to 47 cents each on 1,988,769 no-par common shares and comparing with $3,424,202, or $1.15 a common share earned in the preceding year. The net profit for the twelve months ended September 30 was $3,137,681 or 82 cents a common share, comparing with $4,977,913, or $1.74 a common share during the year ended September 30, 1937.

Lambert Earnings Steady

The Lambert Co. reports for the nine months to September 30 consolidated net profit of $1,090,428, or $1.46 each on 746,371 shares, and comparing with $1,082,780 or $1.45 a share last year.

For the September quarter the company reports net profit of $477,101, or 64 cents a share, as compared with $430,719, or 58 cents a share in the September quarter last year.

National Oil Earns More

National Oil Products Co. and subsidiaries report for the September quarter net income of $94,412, equal to 53 cents each on 179,825 shares and comparing with $82,633, or 48 cents each on 173,075 shares in the preceding quarter and $89,138 or 53 cents a share in the September quarter of last year.

For the nine months ended September 30 the net income was $258,426, equal to $1.44 a share, and comparing with $415,178, or $2.45 a share, in the first nine months of 1937.

Parke, Davis Earns Less

Parke, Davis & Co. reports a net profit of $6,416,062 or $1.31 a share for the nine months ended September 30. This compares with a profit of $6,918,122, or $1.41 a share, in the first nine months of 1937.

For the year ended September 30 the net profit was $8,566,244, or $1.75 a share. This compares with a net profit of $9,382,403, or $1.92 a share, in the year ended September 30, 1937.

Tampax Earnings Up

Tampax, Inc., reports for the September quarter a net profit of $62,734, equal to 20 cents a share and comparing with $38,461, or 12 cents a share in the same quarter last year. For the nine months ended September 30 the net profit was $99,376, equal to 33 cents a share and contrasting with a net loss of $28,676 in the same nine months last year.

Vadsco Earns More

Vadsco Sales Corp. and subsidiaries with the exception of Vadsco Realty Corp., report for the September quarter a net profit of $52,754 as compared with a profit of $29,366 in the third quarter of last year.

Vadsco Realty Corp. reports for the September quarter a total loss of $14,685 as compared with a loss of $12,404 in the same quarter last year.

Zonite Earns $101,972

Zonite Products Corp. and subsidiaries reports for the September quarter a net profit of $101,972, after recovery of reserve for future advertising of $4,000 provided from first quarter earnings, equal to 12 cents each on 825,656 capital shares. This compares with a net loss of $86,231 in the preceding quarter after recovery of reserve for future advertising of $46,000 and net profit of $108,241 after $40,000 future advertising, equal to 13 cents each on 835,551 shares in the third quarter of 1937.

Obituaries

Francois Lageat

Francois Lageat, director of Etablissements Antoine Chiris and president of the board of Pilar Freres, died at his home in Le Cannet, France, October 12, following a short illness.

FRANCOIS LAGEAT

Mr. Lageat was a Knight of the Legion of Honor, Officer of the British Empire and Counsellor of French Foreign Commerce.

He is survived by his widow and one son, Jean Lageat.

David Low

David Low, associated with Julius Schmid, Inc., New York, has died at his home in Mt. Vernon, N. Y., at the age of fifty-nine. He was formerly associated with Eli Lilly & Co. and with Holland Rantos.

Russell John Hawn

Russell John Hawn, vice-president of Monsanto Chemical Co., died at his home in Birmingham, October 14 after an illness of several months.

Mr. Hawn was in charge of operations of Monsanto's Phosphate Division, which has plants in Anniston, Ala., Columbia, Tenn., Camden, N. J., and Carondelet Mo.

He was born March 8, 1878 in Stevens Point, Wisc. and moved to Birmingham in 1922. He had been associated in the cement business with Lindley C. Morton and had been vice-president of the Swann Corp., which was acquired by Monsanto in 1935.

Jerry McQuade

Francis P. (Jerry) McQuade, editor for the last sixteen years of "Drug Topics" and for the past twelve years of "Drug Trade News," died November 2 at Overlook Hospital, Summit, N. J. He was sixty-three years old.

Mr. McQuade suffered a heart attack at a dinner of the Morris County, N. J., Community Chest on November 1 at which he introduced Miss Mary Pickford as a speaker.

At one time on the staff of the *New York Herald*, he later became editor of a house organ, published by McKesson & Robbins, Inc., which developed into the present "Drug Topics" which is now independently owned.

Mr. McQuade is survived by his widow and a son, John McQuade.

Henry W. Merritt

Henry W. Merritt, a former president of the National Retail Druggists' Association, died October 7 in Wilkes-Barre, Pa. He was sixty-five years old.

Dr. Forde Morgan

Dr. Forde Morgan, medical director of Sterling Products Co., died October 8 at his home in New York at the age of seventy-one.

Dr. Morgan was born in St. Louis and was educated at the University of California and at the Bellevue Hospital Medical College, receiving his degree in 1892. After practicing for a few years, he became associated with the Chas. H. Phillips Chemical Co. and in 1924 was appointed medical director, retaining his post when the Phillips company was acquired by Sterling Products.

Frank T. Robinson

Frank T. Robinson died at his home in Dallas, Texas, September 24 at the age of fifty-two.

Until his retirement because of ill health in 1934, Mr. Robinson was district manager in Chicago for the Monsanto Chemical Co. He was born in Baltimore the son of John C. Robinson who was with the Powers-Weightman-Rosengarten Co. and later with Merck & Co. Frank Robinson became a salesman for the Greiner-Kelly Drug Co. and was later a representative of Powers-Weightman-Rosengarten Co., making his headquarters in Chicago. When that company was merged with Merck & Co., he became associated with Monsanto Chemical Co.

DRUG and COSMETIC REVIEW

FOURTH EDITION

Here is the most complete reference book for manufacturers of drugs, cosmetics and all allied products ever published. Hundreds of letters from buyers, chemists, perfumers, factory managers and others in many of the leading companies all praise its usefulness and everyday value. Three distinct sections each with as many pages as a complete book:

1. Complete articles—67 of them, covering every phase of formulation, manufacturing, raw material selection, etc., for all important products in the industry. An everyday manual and an invaluable reference book.

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INDUSTRY'S BOOKS

Any book reviewed in this section can be purchased direct from THE DRUG AND COSMETIC INDUSTRY at regular publisher's price.

Pharmaceutical Botany, by H. W. Youngken, Ph.M., Ph.D., Sc.D., Sixth Edition, 793 pp., Illus., P. Blakiston, Phila. Cloth $4.75.

The sixth edition of this work has been thoroughly revised in conformity with the rapid advances in plant science. H. W. Youngken is Professor of Botany and Pharmacognosy in the Massachusetts College of Pharmacy, Member of the Committee of Revision of the Pharmacopoeia of the United States, Botanical Editor of the United States Dispensatory and author of "A Textbook of Pharmacognosy." This book therefore needs little further introduction other than to say it contains pharmaceutical and medical applications, especially adapted for the use of students of pharmacy and economic botany and is a reference for pharmacists, chemists and students in structural and systematic botany. Important additions and revisions include histology, cell contents, taxonomy, the living cell, nonprotoplasmic cell contents, genetics and evolution, plant tissues, etc.

Executive's 1939 Data Book, 3″ x 5″, Prentice-Hall, Inc., New York, 75c.

Those familiar with this handy little pocket book will be pleased to know that the 1939 Edition is ready for distribution. Primarily a memorandum book it does contain a great variety of useful information for the busy executive.

A Textbook of Physiology, by W. D. Zoethout, Ph.D., Sixth Edition, 714 pp., Illus., The C. V. Mosby Co., St. Louis. Cloth $4.00.

This book is intended to fill the gap between the larger texts of which there are many in the field and those offering a briefer course. The format of the Fifth Edition has been maintained because it proved eminently successful. In the new edition the chapters on hormones and vitamins have been carefully rewritten and the chapters on circulation have been largely revised. Other changes in this work constitute a rewriting to meet the needs of modern courses in physiology and have to do mostly with the detail of the material. This book is standard text in many of the Universities and Colleges in this country.

Vitamin B_1 And Its Use In Medicine, by Robert R. Williams, Sc.D., and Tom D. Spies, M.D., 411 pp., The MacMillan Co., New York, Cloth $5.00.

It now seems that the chief function of Vitamin B_1 is to regulate cell respiration. It has been demonstrated that many forms of neuritis and allied disorders are directly related to impairment of this function. The chemical structure of the antineuritic vitamin is now known, and its artificial synthesis has recently been achieved. This book is a review and summary in convenient form of the knowledge of this important substance. Part I records the available information while Part II deals with history and with experimental evidence derived from laboratory work.

Health, Hygiene and Hooey, by W. W. Bauer, M.D., 322 pp., The Bobbs-Merrill Co., Indianapolis, Price $2.50.

The title of this book sounds a bit tough but it's really a good book. First of all it is authoritative because it is written by Dr. Bauer, Director of the Bureau of Health and Education of the American Medical Association and Associate Editor of Hygeia, the Health Magazine. Secondly it is not a debunking book written solely because books of that nature have found a ready market. Its purpose is not to disparage many worthwhile food and drug products on the market but while it tells you what's what it is constructive in its criticism, always stressing the use of common sense with regard to health problems. The author has a free and jolly style and as a result this latest health book is quite readable.

Accepted Dental Remedies 1938, 4″ x 7″, 284 pp., American Dental Association, Chicago, cloth $1.50.

This book lists and describes those pharmaceutical articles which stand acceptable to the Council on Dental Therapeutics. It contains those official drugs and preparations which are considered to be of greatest usefulness in the field of dentistry and nonofficial articles marketed in conformity with the rules of the Council. The section on Formulas and Prescribing Suggestions has been enlarged. The chapter on Vasoconstrictors has been revised and an article dealing with Cevitamic Acid has been added.

Stokes B-2

The Standard Tablet Machine

You know and probably have used, the Stokes B Rotary Tablet machine . . . the machine that is standard equipment in most pharmaceutical laboratories. Here is its successor, the B-2, in which are incorporated all the well-known and appreciated features of the earlier model plus improvements that add much to the ruggedness and durability, economy and efficiency, cleanliness and good appearance of the new machine.

Versatile—For small or large production, using as few or many pairs of punches and dies as the job requires . . . for tablets 1/8" to 5/8" in diameter.

Rugged—Semi-steel construction for long life, trouble-free service and low maintenance cost.

Simple—Entire machine is of simple design, perfected over years of service . . . with well proportioned parts, adequately lubricated . . . a fool-proof machine, free from complicated mechanisms.

Protected Operation—Automatic Excess Pressure Release makes jamming practically impossible, absorbs undue strains, saves wear and tear.

Entirely Enclosed—A dust-protected machine with guarded upper punches, totally enclosed clutch and drive parts, covered die screw holes . . . everything we could think of has been done to protect the working mechanism.

Variable Speed Drive—Permits selection of exact speeds required for best results under all conditions of material and size of tablets. Enables output to be maintained at maximum on all work within range of machine.

"Anti-Capping"—New cam arrangement has minimized capping. "Fines" that frequently result from slugging won't cause operating difficulties with this machine.

Other Features—Including: improved tablet weight adjuster; enclosed twin-disc clutch; punches removed without tools; hinged gear guard readily opened (not necessary to remove feed frame or hopper) . . . and others we haven't space to enumerate here.

Ask for Catalog 710.

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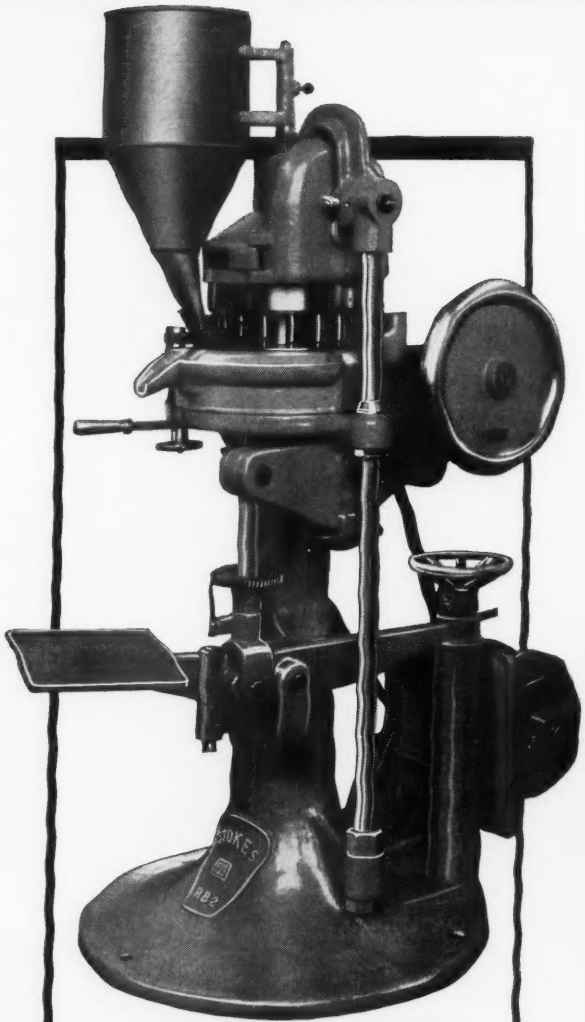
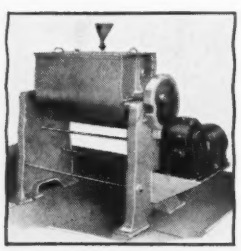
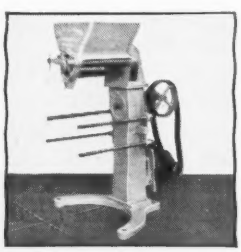


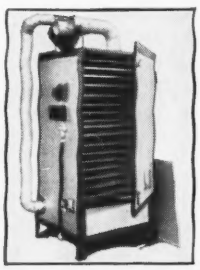
STOKES B-2 ROTARY TABLET MACHINE



GRANULATING MIXER



OSCILLATING GRANULATOR



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NEW PORTABLE DRUG MILL

F.J.Stokes **PHARMACEUTICAL EQUIPMENT** FJS Est. 1895

PRODUCTION FORUM

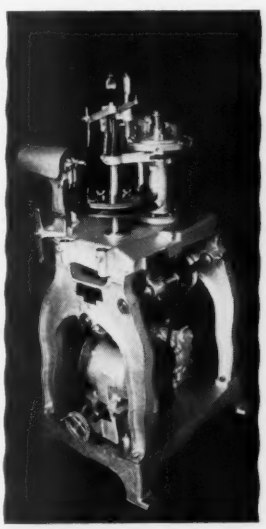
BY Francis Chilson
PRODUCTION ENGINEER

ABBE-LENART CHANGE TANK MIXERS

In the accompanying *illustration* you will see the well known Abbe-Lenart mixing principle applied to a change can mixer. The mixing disk is attached to a head which may be lowered into the can by means of a hand wheel, the whole assembly being counterweighted to make the operation easy. The mixing disk is provided with radio ribs and is impelled by a shaft resting in the frame of the mixing can. Above the mixing disk is a stationary funnel and the disk is surrounded by an agitator ring. This ring is stationary and is supported by vertical rods from the gear head. High speed rotation of the agitating disk creates a vortex both above it and below it, thus providing rapid uniform agitation and preventing the precipitation of any sediment. This machine is recommended for suspensions, solutions, various types of emulsions, and for general plant work in which the original container may also be used for the purposes of storing and transporting the finished batch. The Abbe-Lenart change tank mixer is available in four sizes to fit containers ranging in capacity from one to two hundred and fifty gallons. Belt and direct motor types are available and equipment construction may either be of ordinary or corrosion proof metals. Incidentally the tank may be made of glass-lined steel.

COTTONING MACHINE

Some time ago we described to you the cottoning machine developed by E. E. Lakso, Fitchburg, Mass. An *illustration* of this machine is given in the adjacent photograph.



To refresh your memory on the subject we should like to tell you that this machine will handle tablet products ranging in capacity from one and three-quarter to six ounces at a speed between thirty and forty bottles per minute. Semi-automatic and automatic models are available. The semi-automatic model is the basic unit and may be converted into an automatic machine by the simple addition of certain accessory parts. As compared with hand cottoning, this machine will save approximately 15 per cent. of the amount of cotton used and the manufacturer of the equipment claims a very considerable labor saving. Our experience with the machine, however, is that while the cotton saving is readily apparent, the labor saving is variable because there are operators who can insert cotton at the rate of thirty bottles per minute and in any case the speed of hand cottoning depends upon the amount of cotton to be inserted and the shape of the containers. A very desirable feature of this machine, however, is that regardless of the labor saving, the

4 definite Savings

Made by Machine Bundling

If you operate wrapping or cartoning machines, the chances are that your volume is sufficiently large to enable you to benefit by the four striking savings that machine bundling offers.

1. WRAPPING MATERIALS: Using a strong, heavy paper instead of made-to-order boxes makes an immediate saving of 60% on wrapping material costs.

2. TRANSPORTATION: Wrapping material weighs ⅛ as much as boxes. The reduction in shipping costs is really a double one, as containers must be shipped from box factory to your plant, and thence to distributor.

3. LABOR: The bundling machine requires only one operator to do the work of many hand packers. It will handle the output of two or more cartoning machines.

4. FLOOR SPACE: Some users save as much as 50% of the floor space formerly required for packing.

Send us a number of your packages and we will return them to you bundled on our machine. We will also send you an estimate of comparative costs.

PACKAGE MACHINERY COMPANY, SPRINGFIELD, MASS.

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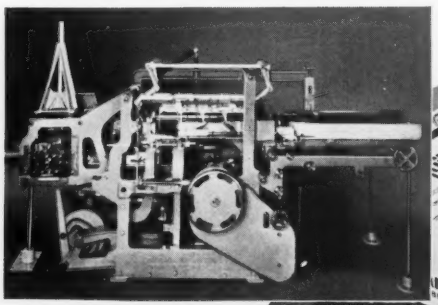
Mexico, D. F., Apartado 2303 Peterborough, England: Baker Perkins, Ltd.
Buenos Aires, Argentina: David H. Orton, Maipu 231
Melbourne, Australia: Baker Perkins, Pty., Ltd.



Automatic feed conveyor transports packages directly from cartoning machine to bundling machine, which wraps them in lots of from 2 to as many as 24, depending upon the size of the packages. Packages may be assembled in various ways to suit the shape of the bundle desired. Plain or printed wrappers may be used, and the machine also attaches printed end seals.

PACKAGE MACHINERY COMPANY

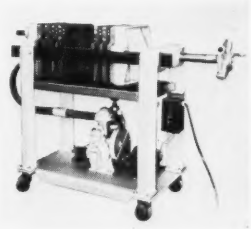
Over a Quarter Billion Packages per day are wrapped on our Machines

cotton is not touched by more or less clean hands. The machine inserts the cotton under the shoulders of the bottles with a very simple mechanical motion and on the whole the machine which was installed in the plant of one of our clients has proven to be very satisfactory.

RUBBER FILTER PRESS

A new compact filter unit has been developed by T. Shriver & Co., Harrison, N. J., for filtration of pharmaceutical or cosmetic solutions which are injurious to or are contaminated by metals. The operating mechanism of the filter is made of semi-hard rubber.

The particular unit *illustrated* consists of alternate filter plates and frames, 12″ square, assembled on side bars to make a 6 chamber filter with a total filtering area of 5.5 square feet and a conservative filtering–capacity of 135 gallons per hour. Increased filtering capacity may be accomplished by adding plates and frames to increase the number of filter chambers at an increased rate of 20 to 25 gallons per chamber.



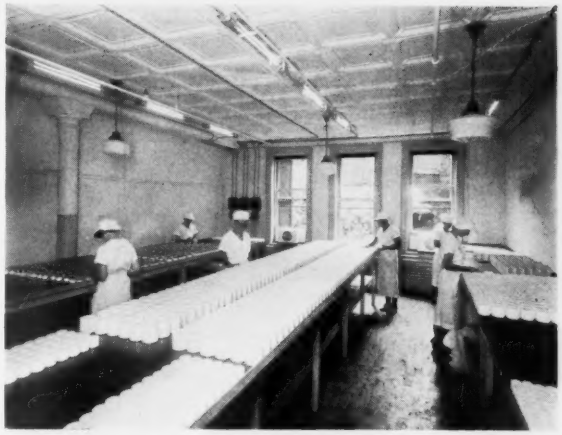
The plates are clothed with either cotton, twill or wool cloths depending on the nature of the solution to be handled. In order to facilitate cleaning, filter paper may be placed over the cloth, thereby permitting quick and easy stripping of the paper together with the solids in the filter frame, from the cloth and re-covering with fresh paper. The entire opening, cleaning and closing procedure is thus accomplished in minimum time.

The filter is fed by a Shriver Duplex Diaphragm Pump with rubber lined liquid ends, valves, feed and discharge with rubber hose connection to the filter. The pump is direct connected to a ¼ H.P. standard motor.

All this equipment is mounted on a portable stand, moved on heavy swivel type casters. The entire unit is only 35″ long, 21″ wide and 36″ high.

AIR STERILIZATION

A few months ago we indicated to you that "Sterilamps" might be used in certain packaging operations such as ampouling, biological packaging, etc. These lamps which are manufactured by the Westinghouse Electric and Manufacturing Co., of Bloomfield, N. J. are a feature of the Rentschler process, which has been so widely employed in the food industries. At that time, we did not think that cosmetic manufacturers would be interested in this equipment but we were mistaken because Charles of the Ritz as shown by the accompanying *photograph* has made a complete installation of sterilamps in a cream packaging department. The lamps which consist of thirty inch tubes are mounted with reflectors on the ceiling and the air entering the room is filtered and kept in circulation to prevent dead pockets. Charles of the Ritz is also using these lamps in the production department where a lamp is installed above each mixing machine.



STERILAMPS IN CREAM PACKAGING DEPARTMENT OF CHARLES OF THE RITZ

WARING MIXER

The Waring Mixer which we mentioned to you on a previous occasion is *illustrated* in the subjoined photograph. The operating principle of this mixer is such as to commend it for general laboratory and pilot plant use in the preparation of solutions, suspensions, emulsions, and possibly for shaking alcoloids. The operating principle is somewhat similar to that of the Abbe-Lenart Mixer with which you are familiar. The mixing element consists of an under driven propeller and shredder. The container is convoluted in shape which increases the frictional surface of the vessel and tends to produce a series of swirls; thus increasing the mixing efficiency of the unit. The vessel is made of Pyrex glass and is dumped by lifting it off the base upon which it stands. The agitating element remains in the container, and is made leakproof by means of a stuffing box. A socket in the bottom of the agitator engages the shaft of the motor when the vessel is placed back upon the stand.

DIALYSER

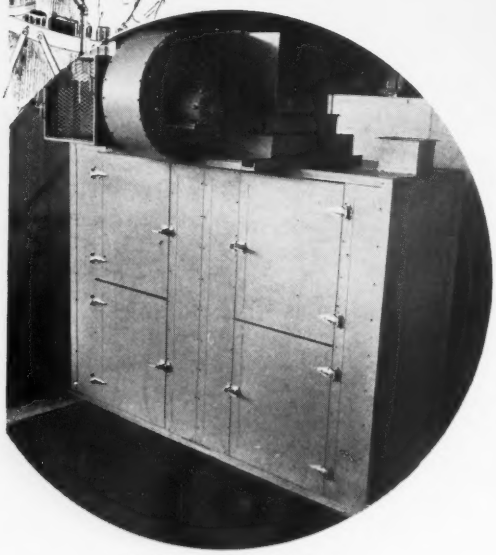
If you have any product in connection with which dialysis can be employed profitably, you will be interested in the dialysers made by the Brosites Machine Co., 30 Church St., New York, N. Y. Laboratory and commercial units are available and may be operated

Have you a processing need for

AIR

AT HIGH-MEDIUM-LOW
TEMPERATURES FOR
BAKING DRYING
AIR CONDITIONING
REFRIGERATION · CHILLING
DEHUMIDIFICATION

Air Conditioning



Low Temperature Drying

Whether your particular manufacturing process requires air at temperatures up to 1000° F., at zero cold or any predetermined condition of temperature and humidity between these extremes—Ross can furnish the necessary equipment. Under positive control at all times, Ross pure air systems assure uniform performance, maintain production schedules and quality while reducing losses due to spoilage. Investigate the possibilities for improving your product and process.

Utilize the extensive experience of more than 25 years possessed by Ross engineers. You can rely on recommendations by Ross. Inquiries invited.

Automotive, Baking, Confectionery, Canning, Drugs, Furniture, Toy, Printing, Lithographing, Plastics and Wire are but some of the major industries successfully using Ross Air Systems for particular processes.

J. O. ROSS ENGINEERING CORPORATION

Main Office 350 MADISON AVE., NEW YORK, N. Y.

201 North Wells St. CHICAGO — 12953 Greeley Ave. DETROIT — 2860 N. W. Front Ave. PORTLAND, ORE.

IN CANADA — ROSS ENGINEERING OF CANADA, LTD. — DOMINION SQUARE BUILDING, MONTREAL

with cellophane or parchment diaphragms. These machines look very much like filter presses and are inexpensive to operate.

STAINLESS STEEL EQUIPMENT

Your attention is drawn to the line of stainless steel tanks, mixers, and other equipment made by Metal Glass Products Co., Belding, Mich. This equipment is well designed and comparatively low in price. We have learned that the source for stainless steel equipment which we located in Philadelphia quite some time ago is not entirely consistent in quoting prices—evidently because of the lack of uniform cost accounting methods.

PAPER SHREDDER

At one of the recent packaging shows there was exhibited a paper shredding machine made by Kravan Machinery Corp., 51 East 42 St. At the time, the device did not register very forcibly, but in the interim we have seen a number of them in operation and we have

come to realize that especially in the larger plants this shredding machine offers a means of disposing of waste paper and at the same time reducing excelsior bills. In looking into the matter we were very much surprised at the amount of waste paper of all kmds of which the average plant has to dispose. This device is therefore recommended to you for investigation.

SERUM FILTER

American Seitz Filter Corp., 480 Lexington Avenue, N. Y. C. requests me to call to your attention a Number 20 Seitz filter which, when equipped with Seitz sterilizing sheets, is guaranteed to produce a sterile filtrate. This machine has been used for serums, saline and glucose solutions for intravenous injections, essential oils, extracts, and essences. Also, the same company has developed a sheet type filter constructed very much like a filter press and very much easier to set up and to clean.

A noteworthy feature of this unit is that it may be set up in two divisions for coarse and fine filtration. In one division the heavier precipitate is removed, and in the other the filtrate is given a final polish. When large amounts of filter aid, activated carbon, etc., are used in the preparation, this filter may be equipped with sludge frames capable of accumulating cakes up to two inches thick. This machine thus offers a means of combining the features of a disk filter and a plate and frame filter.

E-Z LABELER

A device for simplifying and speeding up the process of labeling by hand has been added to the line of the New Jersey Machine Corp., at Hoboken, New Jersey. Known as the "E-Z" Labeler, this device has been tested and found particularly suitable for plants with a production capacity too low to make the installation of a mechanical labeler practical and economical.

The "E-Z" Labeling Device uses pre-gummed labels. When operating this device, the package or bottle is picked up with the right hand and first pressed against a moisturing pad. Still holding the bottle in the right hand, it is placed in the device proper which is equipped with two sets of gauges, one to locate the bottle, the other to hold the stack of labels. The moistened surface of the bottle coming in contact with the gummed label, causes the pick-up. With the left hand, the labeled bottle is removed from the device and pressed against a cloth or piece of felt while the right hand takes care of the next unlabeled bottle. The device has a particularly simple means by which the hopper guides control register and the simple means by which the bottle guides are adjusted and firmly secured.

Because of the ease and simplicity of adjusting guides and the extreme lightness of the equipment, the last objection to a hand labeling device has been removed. A folder indicating many advantages and illustrating its operation is available to the trade. As far as possible the parts have been made of light weight non-corrosive materials.

This device completes the range of labeling equipment available by the New Jersey Machine Corp. ranging from the heavy duty labelers, and the Pony Labelrites, to auto gummers and table gummers. This new "E-Z" Labeling Device weighs only seven pounds.

DUST COLLECTOR

For certain applications where dust concentrations are excessively high, the Schneible multi-wash dust collector offers a very compact, trouble-free method of collecting dust and of removing fumes. As a matter of fact, Schneible installations are so simple that they are guaranteed against repairs or maintenance for five years. Such a broad guarantee is possible because the equipment contains no moving parts, spray heads, nozzles, or filter cloths. The Schneible unit consists of a cylindrical tank with a conical bottom, which acts as a cyclone precipitator. Dirty air enters the cyclone chamber at the bottom of the unit and passes countercurrently upward through a series of impingement plates, against a downward flowing water spray. Water, oil, or glycerine may be used for the wet medium, and filtration apparatus is provided to permit the recovery and recirculation of the wash water. The unit is manufactured by Claude B. Schneible, 3951 Lawrence Ave., Chicago, Ill.

READCO

MASS MIXERS AT NORWICH PHARMACAL CO.

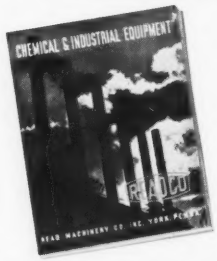
Here is a Mass Mixer for pill and tablet masses that combines first—mixing to incorporate ingredients into the base, and second—kneading to produce a uniformly smooth mix of the proper consistency. Mixing tank is jacketed to permit close regulation of temperatures. Excessive pressure, likely to build up against the tank ends during mixing, is eliminated by specially designed agitator worms. The result: no pocketing or pinching of material, minimum temperature rise, less mixing time, and lower power consumption. Interior of tank is easily washed, and drained through discharge piping built in the machine frame.

READCO'S complete line of Mixers have been carefully developed by READCO Engineers for specified purposes. Whether your requirements call for ferrous or non-ferrous metals, carbon, special alloy, solid or clad steels, welded or cast, READCO'S Shop and Engineering Specialists are available for every phase of its fabrication.

Tomorrow's Equipment-Today

READ MACHINERY CO., INC.
YORK, PA.

READCO Mass Mixers installed in The Norwich Pharmacal Company's pill and tablet mixing room, Norwich, N. Y. These Mixers are built with tank, arms and cover of stainless steel. Mixing arms are reversible in operation. Working capacities 7½ gal. and 16 gal. A duplicate installation is now being made for Sharp & Dohme, Philadelphia, Pa.



The complete line of READCO Drug and Pharmaceutical Equipment including Mixers, Dreg Stills, Powder Sifters and Material Handling Equipment is illustrated and described in this catalog. A copy is "yours for the asking."

MAIL THIS COUPON TODAY—There's no obligation.

READ MACHINERY CO., INC.
York, Pennsylvania

Gentlemen:

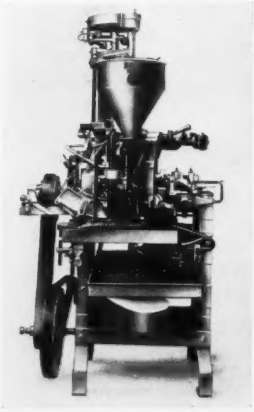
Yes, we are interested in READCO Drug and Pharmaceutical Equipment.

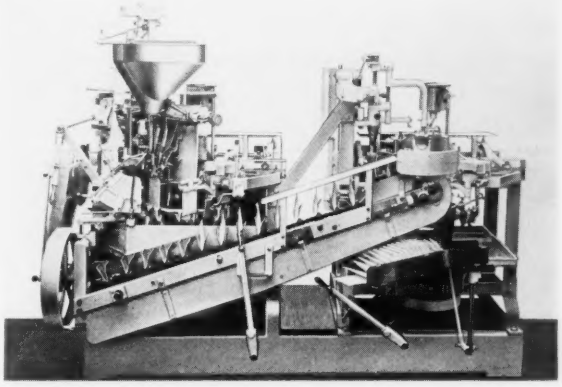
☐ Please send us your complete catalog.
☐ Please have your Representative call.

Name .....
Company .....
Address .....
City ..... State .....

ENVELOPE FILLERS

We would like to call your attention to the Hoeller envelope filling machines illustrated in the *two photographs* appearing herewith. Each of the photographs illustrates a particular type of machine. The MA 1 is used to fill single envelopes. The MA 2 will fill one envelope and insert the filled and sealed envelope into another envelope which in turn will also be sealed. By providing special attachments, two different types of powder can be dealt with simultaneously; one in one envelope and one in the other. For instance, seidlitz powder or other effervescent or incombatible mixtures can be packaged in this fashion. A number of these machines are in operation in the trade for filling sodium perborate tooth powders and other preparations in powder form. A separate model of this machine can be obtained for filling tablets, pills, candies, and similar products. All the machines are adjustable as to envelope size and contents and range in capacity from sixty to seventy envelopes per minute. The double envelope feature of the MA 2 machine recommends it for products which are hygroscopic in nature. The machines are comparatively inexpensive. Exclusive agency for the U. S. is controlled by Mr. H. C. Baum, Grand Central Terminal Building, New York City. If you have any product which requires packaging in envelopes of any kind, we suggest that you get into touch with Mr. Baum.





ENVELOPE FILLING AND CLOSING MACHINE FOR DOUBLE PACKAGES

LIQUIDOMETER

This is the name of a complete line of liquid level gauges made by the Liquidometer Corp., Skillman Ave., and 37 St., Long Island City, New York. They are very compact and are said to be calculated to very accurate readings. Immediate and remote control types are available.

SLUDGE PUMPS

If you have a particularly heavy sludge to handle, you will be interested in the Quimby screw pumps made by the Quimby Pump Co., 340 Thomas St., Newark, N. J. These pumps will handle virtually anything without pulsation. The pumping element consists of a pair of helical meshed screws.

PACKAGING

Robert Gair Inc., 155 E. 44th St., N. Y. C. has published a 36 page booklet on sealing corrugated and fibre containers which should be useful to you. The booklet was written by J. D. Malcomson who has charge of container research for the company.

Another handy item for a different packaging purpose is a sealing iron for heat sealing cellophane and other heat sealable papers. The device looks like a soldering iron and is equipped with a thermostatic element for controlling temperatures. The handle is removable so that the unit can be mounted on wrapping machines whenever an extra sealing element is required. The device is made by Wells Mfg. Co., 22 S. 9th St., San Francisco. Incidentally you can use any electric soldering iron for this purpose by making due provision to prevent overheating.

STAINLESS STEEL

The name "Pfaudler" has to such an extent become synonymous with glass lined equipment that many of you do not realize that this company is one of the largest fabricators of stainless steel in the country. The Pfaudler Co. of Rochester began fabricating stainless steel in 1927 and recently completed a new alloy metal plant in Elyria, Ohio. This is the second plant of the company which has specialized in alloy metals. The new plant was christened with an $80,000 order for stainless steel fermenters and tanks for the Northwestern Yeast Co.

AIR CONDITIONING

This is the title of a comprehensive book by Charles A. Fuller, consulting engineer on air conditioning and related fields, with the collaboration of David Snow, also a consultant in the same field. What makes this book particularly valuable to all plant men is the fact that an effort has been made to present the data in the simplest possible terms so that one does not need an engineering training to benefit from the book. The book covers the properties of air, load calculations, duct design and air distribution, registers and grilles, heating and humidification, fans, cooling coils and air washers, refrigeration, auxiliary equipment and methods of application. The book is published by The Norman W. Henley Publishing Co., New York, 577 pp. $4. This book may be ordered through THE DRUG AND COSMETIC INDUSTRY.

No. 2 Rotary Tablet Machine

New and Improved!

We have no yearly models—but improvements and refinements are being constantly added to Colton machines.

There are over five hundred Colton Rotaries in use.

Superior design, sturdy construction and ease in operation have made this possible.

The No. 2 Rotary Tablet Machine has such desirable features as *positive pressure*, eliminating varying thicknesses of tablets; *hardened steel gear drive*, eliminating frequent replacement of worms used on other makes, and *sliding upper punch holders*, to hold the punches rigidly, enabling the manufacture of special shaped tablets most satisfactorily.

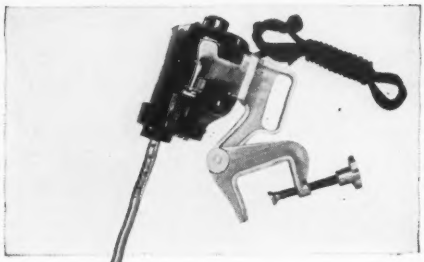
Write for Catalogs.

ARTHUR COLTON COMPANY

2620 East Jefferson Ave.
Detroit, Michigan

ERTEL PORTABLE MIXERS
DIRECT DRIVE & BACK GEARED

BACK GEARED TYPE



In all sizes for any purpose. Complete, proper mixing is of special importance in drug and cosmetic manufacture. An Ertel Mixer speeds up mixing, assures proper mixing, and offers extra portability. All Mixers furnished with stainless steel shafts and propellers, unless otherwise specified.

ERTEL ENGINEERING CORP.

DEPT. B ● 120 EAST 16th ST., NEW YORK, N.Y.

Manufacturers of

Asbestos Disk Filters in Metal and Hard Rubber Neutral Asbestos Filter Sheets, Pumps, Portable Mixers, Glass Lined Tanks, Allegheny Stainless Steel Tanks, Portable and Semi-automatic Vacuum Bottle Fillers, Capping Equipment.

HOLD THAT LINE!

Don't let obsolete machinery weaken your production line. Make sure of your goal with *Consolidated's Guaranteed Good Rebuilt Equipment.* It's a "Triple-threat" economy measure!

SELECTED SPECIALS

8—World, Ermold and National semi-auto, motor driven Labelers.
8—Rotex Sifters, single deck, 20 x 48 sieve.
2—Ferguson Carton Wax Wrappers.
7—Tablet Machines: 2—Colton 2B, ½"; 1—Mulford, 2"; 2—Colton No. 2 Rotary, 5/8"; 1—Stokes Rotary D, 1"; 1—Stokes Eureka hand, ½".
1—Pneumatic Scale Automatic Screw Capper; 4—Kramer, semi-automatic.
2—200 gal. Glass Lined Jacketed Kettles; 2—250 gal. Agitated; 4—350 gal. jacketed.
2—Samco Jr. 6 spout Vacuum straight line Fillers.
1—National MG Powder Filler and Weigher.
2—World Rotary Automatic Labelers.
22—Dry Powder Sifters and Mixers, lab. size to 4000 lb.
2—Karl Kiefer Visco Piston type Jar Fillers.
1—Urie Universal Tube or Jar Filler, motor driven.
5—Pony Mixers, Day and Ross makes, 8, 15, and 40 gal.
5—Gravity and Vacuum Bottle Fillers, 2 to 6 spouts.
1—Pneumatic Scale Packaging Unit, carton feeder, top and bottom sealer, 2-stage weigher, Wax liner unit.

MISCELLANEOUS—Large selection of: Glass Lined Storage Tanks, Pulverizers, Pill Mass Mixers, Colloid Mills, Coating Pans, Portable Agitators, Boilers, Grinders, Screens, Stills, Drug Mills, Sifters, Filter Presses, Tanks, Pumps, Kettles, Ointment Mills, Filters, etc. SEND FOR COMPLETE BULLETIN.

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Consolidated Products Company, Inc.

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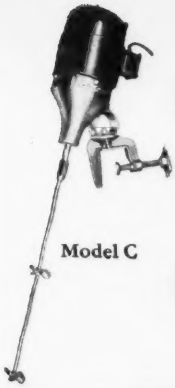


Model C

IN THE "*LIGHTNIN*" SEALED BALL BEARING MIXER THIS PREVENTS THIS FROM RUINING BATCHES

In the "LIGHTNIN" Mixer a new type of pre-lubricated *sealed* ball bearing positively prevents oil or grease from running down the shaft, or in any way contaminating lotions, perfumes, creams and other products being agitated.

It's *triple* economy, too, to specify the "LIGHTNIN" *Sealed* Ball Bearing Mixer. Besides ending the costly threat of ruined batches or customers lost through undetected contamination, maintenance and lubrication costs are reduced to a negligible factor. In addition, while this "LIGHTNIN" development costs no more, it insures a longer, trouble-free life for your mixer. Just as grease and oil are sealed in, inescapably, destructive grit and dirt are sealed out.

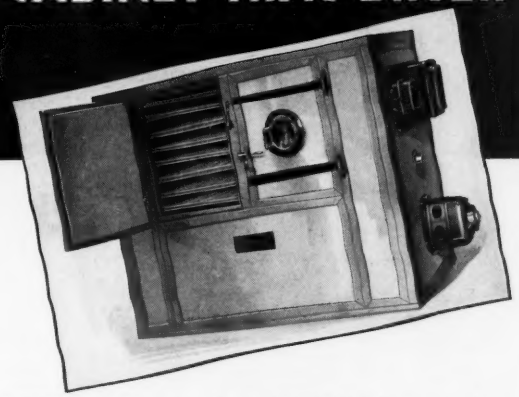
Don't risk profits unnecessarily. Be sure of your mixing equipment. Specify "LIGHTNIN" double action Mixers and get the most for your mixing dollar. Send, now, for complete details.

MIXING EQUIPMENT CO., INC.
1042 GARSON AVE. ROCHESTER, N. Y.

Send me complete details on "LIGHTNIN" Sealed Ball Bearing Mixers.
Name.....
Title.....
Company.....
Address.....

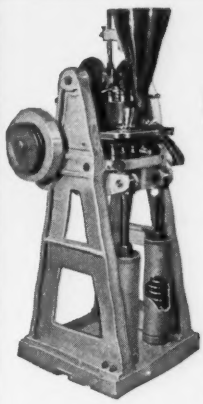
MANUFACTURERS OF LIGHTNIN PROPELLER TYPE MIXERS

New
PROCTOR CABINET TRAY DRYER



CONTROLLED and perfectly UNIFORM drying is often *important to the color and texture of a product . . . and in the* drug and cosmetic industry, especially, any variation in color *and texture often means the difference between high and low* quality. Proctor Dryers, whether of the standard cabinet tray *type shown above or machines especially designed for a par*ticular drying problem, have earned a reputation in a large *number of installations for drying pharmaceuticals, cosmetics* and allied products *correctly*, efficiently and economically.

PROCTOR & SCHWARTZ · INC
PHILADELPHIA



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RUGGED CONSTRUCTION

TWELVE MODELS
Single and Double Action

Without a peer from the standpoint of rigidity of design, as well as for durability and low cost of maintenance.

Preforms of bakelite and other materials

SPECIAL PRESSES BUILT TO ORDER

Send for New Catalogue and Prices

Kux-Lohner Machine Co.
2145 Lexington St. Chicago, Ill.

All Single Punch and Rotary Presses Completely Covered by Patents

LONG WANTED

and Now Ready!

THE BIGGEST SELLER IN YEARS

BLACK LIPSTICK

THAT TURNS RED ON THE LIPS

- Absolutely Pure
- Super-Indelible
- Exquisite Color
- Entirely Different

THE NEW ORCHID LIPSTICK
NOW READY FOR IMMEDIATE DELIVERY

We carry Products Liability Insurance

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A QUALITY HAND CREAM

This cream is rich in Almond and Olive Oil—ideal for chapped, rough or red hands.
Also available in Lotion form.

—SAMPLES ON REQUEST—

We manufacture PRIVATE BRAND products exclusively

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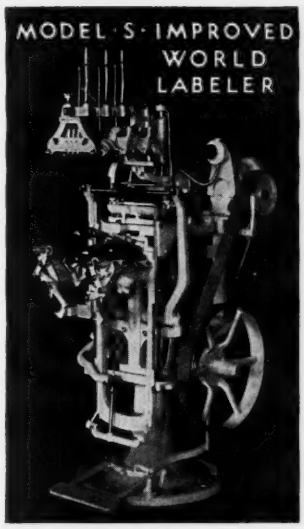

The most flexible labeling machine. Easily equipped for labeling any size bottle or jar. Many exclusive mechanical features, developed by manufacturing experience of more than 35 years.

Economic Machinery Company
WORCESTER, MASS.
Makers of complete line of automatic and semi-automatic labelers.

HERE COMES BUSINESS

Prepare for Increased Production NOW

The dam is broken, here come orders flooding in. Will you be able to make deliveries? Is your plant geared to take care of business far greater than last year? Guaranteed REBUILT EQUIPMENT is economical insurance against being caught short. Check this list for machinery you can use.

Stokes "D", "DD", "H" and "R" Tablet Machines.
Colton No. 2 Triple Punch Dies.
2 Pfaudler 100 gal. Perfect Jacketed Stills.
12 Day Sifters and Mixers 50 to 4000 lbs. some still in actual operation.
3 McDonald Automatic Labelers.
3 Standard Knapp Automatic Gluing and Sealing Machines.
6 J. H. Day 2½ to 40 gal. Pony Mixers.
Samco Jr. 8 Spout Vacuum Filler.
Colton 6 C and Stokes 90 C Automatic Tube Fillers (Monel Construction).
2 Pneumatic Scale 6 Head Automatic Screw Cappers.
8 Pfaudler Glass Lined Tanks 30 to 450 gal. some agitated Stokes & Smith Model G and Stokes No. 15 Powder Fillers.
2 Eppenbach Colloid Mills 1½ H. P. motors (one Stainless).

MISCELLANEOUS: Kettles, Filter Presses, Agitators, Boilers, Grinders, Pulverizers, Mass Mixers, Disc and Gravity Filters, Filling Machines, Conveyors, Labelling Machines, etc.

SEND FOR NEW ILLUSTRATED CATALOG JUST OUT.

FMC APPRAISERS and LIQUIDATORS

"See First first"
First Machinery Corp. 419 Lafayette St. New York City
"We purchase your surplus equipment"

SYNDICATE *Advertising Service*

WRITE FOR FREE SAMPLE

— if you advertise in newspapers you should see the

Drug Advertising Service

This service gives you mats of illustrations drawn by leading artists.

Each issue is carefully merchandised to cover seasonal promotions, with well written copy and layouts.

Plenty of hand-lettered headings and borders, as well as small "spot" cuts, and photos!

If you are ready to advertise for increased business, this service can be useful to you.

Executives may write today for free samples, on your company letterhead, and state your title.
(Because of the large cost of each sample, letters from individuals, and postcard requests cannot be answered.)

Company.....

Name.....

City.....

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342 Madison Avenue New York City

Here's what you'll like about the new

...**"HAGERTY HANDY FILLER"**

- Durable
- Moderately priced
- Eliminates spilling
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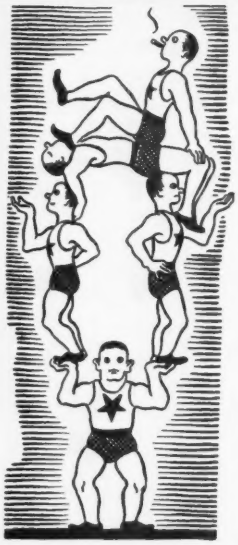
- Convenient sizes
- Light construction

The most practical hand filler for creams, lotions and liquids.

Write for illustrated folder and prices

HAGERTY BROS. & CO.
10 Platt Street New York, N. Y.
Est. 1849

ISCO *Gums*



UNITY *of* CONTROL

in production insures uniformly high quality. In our Jersey City factory, each step in the milling of Isco Gums—gathering, cleaning, grading and packaging—is rigidly supervised.

GUM ACACIA

U. S. P. of highest purity.
Powder · Crystals · Sorts · Granular ·

GUM KARAYA

Fine and Coarse Powder
Crystals and Whole Grain

PERSIAN GUM TRAGACANTH

for every purpose
Ribbon · Flake · Crystal
U. S. P. Powder—complete price range.
Write for 24 page booklet: The Nature and Purpose of our Complete Line of WATER SOLUBLE GUMS.

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ISCO BEESWAX U.S.P.

Discs · Slabs · Flakes
Because of its purity, creams made with ISCO BEESWAX stand the test of time.

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ISCO PACIFIC TRINITY TALC

From America's Purest Deposit
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First-class shaving soaps of all types can be derived from two fatty raw materials: stearic acid and coconut oil. For a super grade of shaving soap, myristic acid may also be acceptable as its soaps combine a heavy lather with, it is claimed, freedom from the skin irritation caused under some circumstances by coconut soaps when used by individuals with a highly sensitive skin. Alkalis entering into consideration are caustic potash alone or in conjunction with caustic soda. An important auxiliary ingredient is glycerin.

Stearates and potassium stearate in particular are known to undergo considerable hydrolysis, the resulting free alkali swelling the keratin in the hair, softening it and thus making it ripe for cutting. Density and stability of the soap lather are important factors because they govern the hair-softening efficiency upon which the pleasantness of a shave depends. Stearates alone yield a stable lather in small bubbles and the glycerin addition counteracts drying. Mixtures of mucilages and triethanolamine may replace glycerin in shaving soaps. Triethanolamine is hygroscopic and softens the hair.

The method to be preferred in principle for making creams is one in which the least stirring is called for during the operation, so as to give from the outset a product with the least possible number of bubbles. The ideal procedure therefore consists in semi-warm emulsification of fats, lyes and water and then, following the start of thickening, in leaving the mass to saponify spontaneously. This is feasible in all cases where, in addition to stearin and coconut oil (which themselves saponify very rapidly), neutral fats like tallow or olive oil are present which retard the saponification reaction so that a sufficiently fine emulsion is present before thickening commences. An allowance must then be made for a slight excess of alkali (about 0.1 per cent.) in order to ensure complete saponification of the neutral fats.

Before perfuming the cooled, soft cream mass the appropriate quantity of castor oil fatty acid or acid turkey red oil is then stirred in to combine with the residual alkali. Premature thickening of cream whose fats consist solely of stearin and coconut oil can be prevented by adding a little electrolyte. Sometimes one may proceed by preparing a cream concentrate of the shaving soap type without adding water, flaking it and leaving to swell in cold water. Different factories of course vary quite considerably in their methods and it is the task of the works chemist to

"I think you ought to have male demonstrators."

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On and after November 1st, 1938, our general offices and plant will be located in Englewood, New Jersey.

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1 lb.	$1.25	25 lbs.	$1.00
5 lbs.	1.15	50 lbs.	.85
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Purer grades also furnished.
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1 lb.	$ .55	25 lbs.	$ .48
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By far best and most economical of ochres; uniform, fine; about six times color power of natural ochres. Use ¾ oz./100 lb. white powder for Rachelle No. 1; 5-6 oz./100 lb. for Rachelle No. 2. In bbls. 225 lbs. @ 13½¢ lb. Available in smaller lots at advance in price.

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Of highest concentration and purity.

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(Yellow shade Bromo Acid) Highest concentration and purity. Especially suitable for orange, vivid, light, etc. lipsticks and rouges.

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1 lb.	$4.50	50 lbs.	$3.60
5 lbs.	4.25	100 lbs.	3.50
10 lbs.	4.00	200 lbs.	3.40
25 lbs.	3.75		

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The finest quality gum for production of stringy, clear, non-flaking fingerwave lotions.

	Price per lb.		
1 lb.	$1.00	50 lbs.	$ .80
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develop that method giving the best results with the fats used.

Two points that appear to merit special attention. First, let there be no excessive anxiety about residues of unsaponified neutral fats which are by no means as dangerous in creams in well-capped tubes as they are in toilet soaps. Experimental batches of shaving creams with several per cent. olive oil have kept unchanged for over two years.

Second, unnecessary loss of time should be avoided: with the right fat mixture and working method, firstclass products are obtained which, after cooling in the kettle, can be filled off without the necessity for prolonged "ripening."

Creams made by saponification with caustic potash and caustic soda generally reveal a somewhat higher fatty acid content (over 40 per cent.) than those made only with caustic potash. They are more "concentrated" and therefore go farther in use.

Shaving cream tubes should be made of pure tin because tinned lead tubes may corrode on lengthy storage, especially in damp rooms, with bad results for the tube and its contents. But even pure tin tubes do not always escape injury at the neck and fold when stored under bad conditions. As all shaving creams are more or less hygroscopic, the tubes become damp at the parts mentioned, soap solution, salts and glycerin diffuse through. The lacquer film of the tube is consequently first attacked and subsequently also the metal itself. This unwelcome change can be countered by the following precautions:

Adoption of sealed tubes whose outlet must first be cut open before use.

Exceptionally resistant special lacquers.

Filling with cream is effected by "spraying," so that the tube end remains as clean as possible. The tube should not be filled so tightly that some material emerges when folding.

The tube fold should be "ribbed", this being a more secure device than "clipping." A coating of paraffin wax on the fold is also much to be commended.

Most important of all—store under dry conditions. *K. Pfaff, S. P. C., Aug. 1938.*

BURNS

Among the varied treatments of burns tannic acid has now an assured position. There are numerous techniques of application, but all depend on the fact that a solution of tannic acid applied to the raw tissue precipitates the surface proteins, forming an insoluble coagulum which seals the injured area. Beneath this seal epithelial tissue is able to form, and when after three weeks or so the crust peels off the area is found to be healed. Burns involving up to 40 per cent. of the body surface, ordinarily fatal, may, by this method, be treated with a fair chance of success.

Nowadays 10 and 20 per cent. solutions are employed, and these give more rapid tanning and a firmer coagulum. The use of still stronger solution appears to be inadvisable, indeed a 40 per cent. solution of tannic acid is used to soften ingrowing toe nails. The solutions should be filtered to remove insoluble material normally present in the powder, and should be freshly prepared as the coagulating power decreases with age. Also, even in the presence of an antiseptic, solutions readily develop moulds and ropey slimes. For emergency work jellies are satisfactory as they keep well; alternatively weighed powders can be kept indefinitely and dissolved when required.

Antiseptics must be added to prevent sepsis—a frequent cause of death of persons suffering from extensive burns. The most favored antiseptic is acriflavine, but the chlorphenols and their homologs, and hexyl resorcinol are commonly employed. Also some of the new organic mercury antiseptics of the type of ethyl mercurithiosalicylate (Merthiolate), or phenylmercuric nitrate (Merphenil), or the anhydride of nitrohydroxymercuri-o-cresol (Metaphen) have been tried. Mercury salts ordinarily should be used with caution because of the risk of poisoning by absorption from extensive surfaces, but these organic compounds are less toxic. The compressed tablets of tannic acid for making emergency solutions are convenient to carry and are suitable for the first-aid cupboard, but in at least one preparation the antiseptic is mercuric chloride, and so these tablets should be used with care or not at all on a large burn.

The tannic acid treatment can be too enthusiastically used. With large burns it often gives excellent results, but on small burns the still living tissues at the edges of the wound are frequently destroyed. As in such cases these tissues play a large part in the regeneration of surface epithelium the loss of their aid may cause considerable delay to the healing of the wound. Another objection to the use of tannic acid is the thick opaque nature of the coagulum and the fact that linen is often badly soiled. For these reasons mercurochrome, which gives a thin, transparent, non-irritating and fairly clean crust, and is also an effective antiseptic, has been recommended in place of tannic acid. Severe and often fatal secondary shock due to the liberation of histamine from the damaged cells is largely prevented by coagulation treatment, the decomposition products of the cells being "locked up" in the insoluble coagulum formed. Acute toxemia has also been treated successfully by the use of adrenal cortex extracts. Up to 5 mils of the liquid extract are given intravenously at one to four hour intervals.

Picric acid solutions, 1 per cent. in 10 per cent. alcohol, although losing favor, are still used. However, the crust formed is often difficult to remove, bad scarring frequently results, and there is a possibility of poisoning from absorption of the acid. Useful solutions for wet treatment are eusol-saline, hypertonic saline, sodium thiosulphate, glycerin, and sodium sulphate. A 12 per cent. solution of the last mentioned assists epithelialization.

After the reaction a year or so ago against oily preparations, these are now being used again. Acriflavine emulsion with ti-tree oil is used in some hospitals. Cod-liver oil, adovcated by Lohr, is often employed; the oil itself, emulsions and ointments being used. The vitamin content was formerly thought to be responsible for the beneficial effects, but plain solution of vitamins A and D in oil or liquid paraffin did not give as good results as those obtained from cod-liver oil itself (Bond). According to Seiring the chemical composition of cod-liver oil is more important than its vitamin content. He finds that the unsaturated fatty acids have themselves definite bactericidal powers, which increase as the acid series is ascended. He therefore suggests the use of the actual acids for dressings. Using the higher homologues extensive wounds were cleaned and healed rapidly, much better than with cod-liver oil. If the fatty acids are used for dressings, every few days applications with hypertonic saline should be made, or excessive granulation, which hinders epithelialization, is caused.

A sterile oily suspension of finely divided bismuth hydroxide is recommended by Patin, who has obtained very good results with it, especially in burns due to the solar rays. On small burns the pain is rapidly relieved, and if the dressing is applied early enough, blister formation may be prevented. The suspension is merely painted on to the affected area and covered lightly with gauze. Several applications a day may be made. Amyl salicylate is becoming increasingly popular for minor burns and particularly for home use. It is a colorless liquid with a very penetrating odor, and possesses analgesic properties. It is not germicidal and therefore an antiseptic such as Abracide (a mixture of isomeric methyl tertiary butyl alcohols) is generally added. As it lacks the coagulant properties of tannic acid, it is not suitable for extensive burns. *Pharm. J. Sept. 3, 1938, p. 210.*

BRITTLE NAILS

The drying and cracking of nails caused by nail polishes is ascribed to the fat solvents that these preparations contain. Usually acetone alone or together with some other fat solvent is used. Also nail polish remover is largely acetone. Thus the repeated application and removal of these nail dressings brings the nail plate in repeated contact with strong fat solvents. Consequently the oils, cholesterol and lipoids normally present in the nails and that make them pliable are dissolved, leaving them dry and fragile. They then crack easily. *J.A.M.A., vol. III, p. 559.*

Perfumers Shelf

WOOD OILS

The wood of certain exotic trees has always stimulated a great interest, either for medicinal purposes or perfumery. Such perfume was utilized in religious ceremonies practised in the ancient Oriental civilizations. As a result of the perfection of methods of distiliation, by means of which the aromatic essential oils are obtained, exotic wood essences have begun to play an increasingly important part in the present-day perfumery industry.

With the exception of special oils from a few woods which are particularly scarce, cedarwood, rosewood, sandalwood, and guaiacwood essential oils are the best known, and are now produced in large quantities.

The importance of the odors derived from such woods for use in perfumery secured early recognition, and one of the aims of practical researches in synthetic matters has been to discover new wood-odors.

The aromatic wood is treated in several ways: by extraction, by distillation, and pulverization. In the form of a powder it is employed principally in sachets, powders, and burning cones, etc.

Before advantageous methods of extraction were known, the ancient perfumers employed the aromatic element of the wood in the form of an alcoholic tincture; nowadays this method is seldom utilized. Actually for this purpose greater use is made of the products called resinoids, obtained by extraction from the wood with the help of volatile solvents (benzyl alcohol, benzene, etc.).

The major part of the wood is, however, submitted to distillation, and the essential oils which are obtained by this process are sold as such or submitted to a further transformation. This latter consists simply in isolating the valuable aromatic substances existing in the oils and eliminating, on the other hand, all the useless elements which are of no value from the perfumery point of view.

Sources of sandalwood are as follow: Santalum album from India; Amyris balsamifera from West Indies; Santalum cygnorum, Fusanus spicatus, Santalum lanceolatum, and Eucarya spicata, all from Australia.

The characteristic isolate is santalol, alpha and beta modifications, while the derivatives of this include the acetate, formate, butyrate, isobutyrate, propionate, valerianate, phenylacetate, and salicylate.

The wood of the tree called sandalwood yields generally from 4 to 6 per cent. of essential oil, which is a colorless, rather viscous liquid. The odor of the oil is strongly individual, with a warm, dominant note, suggestive of animality, and slightly urinary in character. Contrary to what really happens with many essential oils, the odor of this product reproduces perfectly that of the wood from which it is obtained.

Essential oil of sandalwood is indispensable as a base in Oriental perfumes. Hindu "attars" contain this oil, some in greater proportions than others. Sandalwood oil is, moreover, alkali-proof, and is

"Yes, dearie, that perfume is my great secret."

SALUTE SEILLANS!

IT was just ten years ago last month that we took over ownership and active management of the long established and distinguished French plant, Les Parfumeries de Seillans, for the production of our natural flower oils. Even after fifty years or more of close affiliation with the perfume industry, both at home and abroad, this experience in the manufacture of oils from fresh plant and flower material proved to be as liberal an education to us as the exquisite quality of those finished materials proved to be to our customers. The fact that we were in a position to supervise every phase of their production enabled us to deliver to the American manufacturer oils for whose unadulterated purity we could positively vouch.

There is little doubt that the availability of this thoroughly dependable source of true floral extractions, providing as it did an accurate measure for comparison, did much to influence and raise the then existing standards of perfume materials coming from abroad. In view of this, it seems not unbefitting the occasion that we pay this small tribute to the benefits we and the industry have gained by these ten years' association with Seillans.

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Jasmine is an important constituent of most floral compositions. It supplies the subtle harmonies and pleasing undertones which enrich and round out the fragrance. JASOLEA is a really fine Jasmine.

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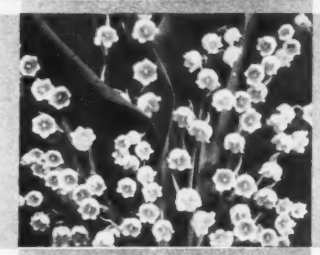
This is the delightful, but difficult-to-duplicate fragrance of Hyacinth, distinguished by its fresh, plantlike character from the shallow, chemical quality of other imitations. A very useful material.



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These FRITZBRO SYNTHETIC FLOWER OILS are but a few of our many fine floral reproductions. All are composed of the highest grade aromatics with strong backings of pure, natural flower extractions. Their use in your perfume laboratory will provide inspiration for an endless variety of distinctive new compositions for your line of extracts, cosmetics and toilet preparations. Many perfumers have found it a good idea to keep experimental quantities of our Specialties on hand for this very purpose.

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. . . . IDEAS and inspiration for odor-effects that will lend quickening stimulus to your sales! Sample these five florals and you'll discover what we mean. You'll discover *why* they're top favorites among our hundreds of delightful perfume specialties.

Comparison with other standard materials is the best way of measuring values, and that is the procedure we suggest with these. Compare AVRYLLIS with any other synthetic lilac; or NARCISSUS, JASOLEA, ACINTHIA and LYLIUM with their respective flower types. Contrast their quality and fidelity of fragrance, their all-around utility and blendability, and finally, their cost, and we honestly believe you will find materials comparable to these only among the more expensive specialties.

At any rate, put them to the test. It will cost you no more than the postage and time necessary to write for samples. And in so doing, you may discover materials which will enable you to indulge your desire for improved odor-effects without overstepping the limits of your budget. May we send you samples, gratis?

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therefore finding an increasing use as a constituent in numerous soap perfumes. Excellent variations are obtained by combination with tonalities of musk and amber. Added to synthetic perfumes such as ionones, artificial musk, rose, and jasmin, shades and modifications can be obtained.

It is the East Indian oil of sandalwood that is mostly used in perfumery; the West Indian oil is not so fine. The Australian variety is used more extensively in soap perfumes.

Certain sandalwood oils recently sold on the market have been produced in Africa and Java. Apart from their limited production, the plant is often lacking in uniformity and the types are made difficult to identify correctly. The odors of such oils are in general far from satisfactory.

Attempts have been made to offer as a natural substitute for oil of sandalwood the essences of Dipterocarpus alatus Roxb., from Singapore, which must be very cheap, but these have not met with any marked degree of success. African sandalwood oils, have so far equally failed to meet with favourable results. Sandalwood oil from Indo-China, called also red sandalwood oil, can be considered, on account of its high content of cedrol, more as an intermediary product between the true oil of sandalwood and that derived from cedarwood (to which further reference will be made later). This oil has not the advantages for high-class perfumery it can show for soap manufacturer, where it has given interesting result in perfume compounds.

The main constituent of sandalwood oil from the East Indies and Australia is santalol, recognized by its far sweeter and purer wood odor. This product is exclusively utilized today in preference to the essential oil in high-class essences for extraits.

The esters of santalol are not without interest; their odors may briefly be described as follows:

Santalyl Formate: Odor fine and fresh. As in the case of all formates it is unstable, and consequently cannot be recommended.

Santalyl Acetate: Resembles to a great extent the natural oil of sandalwood, though its odor is much fresher and more vivacious. Recommended in perfumes where the sandalwood note must be prominent, but without any excessive heaviness.

Santalyl Propionate: This ester possesses a particular note which blends very well with modern perfumes of a strong aldehydic tendency.

Santalyl Butyrate and Santalyl isobutyrate: The fruity odor is more pronounced than in the propionate. Of these two esters, santalyl isobutyrate has the preference, as it is slightly more stable than the butyrate.

Santalyl Valerianate: Possesses also a fruity note, but much weaker and which practically disappears in

Santalyl Salicylate, if this product has been purified.

Santalyl Phenylacetate: This alone possesses a slight odor of honey, with an interesting wood note. *S. P. C.*

FLOWER ABSOLUTE PRODUCTION

Only those products obtained by enfleurage and maceration with fats or fatty oils were formerly used in perfumery as a rule. These methods had their advantages and drawbacks and are now being displaced to an ever-increasing extent by modern extraction methods using highly volatile solvents.

An important factor in the extraction is naturally the recovery of the solvent. Attempts to arrive at the same effect as extraction on quite different lines have been made but little has been recorded about them. Like all other extraction processes, extraction of flowers must be carried out in a well-closed apparatus. If it is asserted in other quarters that the losses in a stationary apparatus are considerably larger than in the rotatable type, we may point out that everything depends on the apparatus. American apparatus operates with a far lower solvent loss than the paddle apparatus of Garnier and Bondon, mainly because it can be pneumatically sealed.

Now as before the chief solvent is petroleum ether, but methanol has been particularly useful in many cases. It is naturally impossible to avoid introducing unwelcome coloring matters into the extracted material during operation of the process, for the solvent will also act upon substances present, for instance, in the woody part of the plant or in the green components which may certainly contain not inappreciable quantities of chlorophyll. The French industry has consequently returned again and again to this problem, endeavoring to reduce the discoloration of the extract to a minimum with the aid of the most diverse agents.

A process utilizing pre-dried inert gases, has been protected by the I. G. Farbenindustrie (Agfa) in D.R.P. 541,047 of 6.5.1926, according to which the gases are passed over those parts of plants giving off odorous substances, previous to being taken up by an absorption agent. The process underlying this patent of the I. G., curiously enough, has just recently received photographic confirmation through the work of Arthenay. By exposing a mercury surface on which talc had been powdered to the perfume of the leaves of rose, jasmin, etc. Arthenay succeeded for the first time in forming monomolecular layers of natural perfume complexes which could be demonstrated in a cinematographic film.

E. P. J. Meunier obtained a patent for a process (F. P. 673,328 of 28.7.1928) which is really more of an enfleurage than an extraction process. Fats corresponding to higher saturated hydrocarbons were used as extraction agents at ordinary temperature in the form of fine powder. The treated flowers were separated from the perfume-charged powder by sieving and the powder subsequently washed with alcohol.

In F. P. 647,338 of 5.1.1928, J. L. H. Hughes and J. M. Ph. Blandin describe a contrivance in the shape of a manually or automatically operated autoclave press, permitting extraction of flowers and plants with volatile extraction agents.

The Groupement d'Etudes et d'Entreprises Generales claimed the use of methylal as an extraction agent for essential oils and perfumes from flowers, fruits and plants in F. P. 673,703 of 23.8.1928.

While active carbon is an important element in processes for decolorizing the absolutes, it has also been used to absorb the perfumes, for which purpose a whole series of new methods has been published. Thus the Charbons Actifs et Procedes Edouard Urbain base their F. P. 660,381 of 29.12.-1927 upon the absorption or adsorption of perfumes by solid materials such as active carbon, from which the adsorbed perfume is later removed by extraction. Whether this unusual procedure has genuine practical value is doubtful, because the absorption vessels are exposed for several days in the fields before extraction so that other plant odors apart from those required may be taken up. The firm also recognized the solvent losses during extraction and designed a special apparatus by means of which the solvent was absorbed by active carbon in course of evaporation and then recovered from the carbon by steam distillation.

Another process utilizing active carbon is that of J. Petersen (F. P. 675,658 of 24.5.1929) in which the raw material is brought into intimate contact with either active carbon or silica gel. It therefore lacks novelty because it is a variant on the foregoing with the addition of silica gel, the material being likewise extracted and the solvent recovered.

A somewhat different method for flower oil production has been patented by E. E. Reid (U.S.P. 1,786,630) who mixes the fresh flowers with the absorption agent in a closed, airtight metal drum and leaves them in the drum until the odor of the flowers has completely vanished. Thereupon the absorption agent is separated from the flowers by straining and the process repeated several times using fresh flowers. To accelerate the process it may be operated in an atmosphere of a light gas, such as hydrogen, or even in vacuum. The perfume is finally isolated by distilling the absorption agent with steam or by extracting with absolute alcohol. A second apparatus is sketched in the specification which is so arranged that the flowers lying on sieves in the drum are automatically mixed with and separated from the absorption agent. *A. Wagner, S.P.C., Oct. 1938.*

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ADVANCING THERAPY

BENZEDRINE

Bahnsen and his associates point out that the administration of large doses of ephedrine to patients with asthma occasionally causes insomnia and motor unrest. However, not until 1930 was it suggested that this action of ephedrine could be utilized in the treatment of narcolepsy. Benzedrine (beta-phenylisopropylamine), a substance closely related to ephedrine, was found even more effective in the treatment of narcolepsy and it was discovered also that, besides counteracting the uncontrolable desire to sleep in patients with narcolepsy, it influenced normal persons not only by acting on their sleep but also by producing a noticeable euphoria, reducing tiredness and increasing energy and the capacity to work. This amine was soon used widely by normal persons, particularly by those who had to do strenuous mental work. The authors decided to study certain aspects of the use of benzedrine and of related substances. They aimed to determine to what extent the supposed favorable actions were merely imagination. Moreover it is known that, whereas some persons are enthusiastic about the effects, others assert that they experience no effects, while still others complain of a number of unpleasant symptoms, such as sweating, attacks of chills, palpitation of the heart, and headaches. Studies were made on several hundred healthy men and women. Some of these received no medication; a second group was given inactive tablets (containing 0.1 mg. of quinine sulfate), which were of the same shape, size and taste as the tablets of beta-phenylisopropylamine sulfate; the latter were given to the third group. Summarizing their observation, the authors say that they observed the same symptoms that had been detected by previous investigators. That the effects were not merely imagined was proved by their absence in the persons who, although unaware of the fact, had received control tablets. Some of the symptoms appear in complexes which are relatively independent of one another. There are cerebral and peripheral complexes. The cerebral ones stimulate activity and influence the mood in a favorable manner. Of the peripheral symptoms, cardiac palpitation, muscular tension and tremor of the hand concur so frequently that a common cause may be assumed. However, the different temperature sensations, the feeling of dryness in the mouth and throat and the lack of appetite appear more independently. If the cerebral symptoms predominate, the effect of the drug is usually experienced as pleasant, whereas in cases in which the peripheral symptoms predominate the effect is experienced as unpleasant. However, the number of cases in which the in-

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disposition reaches such a degree that the drug impairs rather than stimulates activity is small (3 per cent.) Discussing the problem whether healthy persons should be permitted to use beta-phenylisopropylamine sulfate temporarily in order to counteract sleepiness during times when intensive work is required, the authors say that the work does not suffer and the persons are capable of manipulating precision instruments or driving a motorcar. In some persons the drug may cause unpleasant effects and in persons who have never experienced its effects on themselves the use should not be permitted if the work they have to do is of great importance. The authors emphasize the necessity of combating the belief held by many lay persons that the use of the drug can serve as a substitute for physiologic rest. They advise against its use in cases in which the intensive work extends over a longer period or in which there is no insurance of an adequate period of rest before as well as after the exertion. *Klin. Woch. vol. 17, p. 4710.*

BENTONITE OINTMENTS

The use of bentonite gels is advocated in preparing medicinal ointments. The gel is prepared by covering the bentonite with the water and mixing until the product is homogeneous. A gel containing 6% bentonite has the consistency of glycerin; while a 20% gel has the consistency of anhydrous lanolin. Preparations made with the more limpid base are called jellies. The absorbent properties of the base is claimed to be beneficial in treating certain dermatoses. It is also claimed that the gel will prevent absorption through the skin of certain active agents such as mercury; thus restricting its parasitic action to the skin's surface. The following formulas using different colloidal clays are given: (1) Ointment of Yellow Mercuric Oxide. Yellow oxide of mercury 0.3 Gm., bentonite 2.5 Gm., distilled water 15.0 Gm. Add the oxide gradually to the gel. (2) Mercurial Ointment. Mercury 2 Gm., bentonite 2 Gm., distilled water 10 Gm. Intimately mix the mercury and bentonite, then add the water. (3) Zinc Oxide Paste. Zinc oxide 100 Gm., talc (or calcium carbonate) 100 Gm., glycerin 100 Gm., water 100 Gm., bentonite 20 Gm. (4) Zinc Oxide Jelly. Zinc oxide 10 Gm., glycerin 10 Gm., bentonite 6 Gm., water 100 Gm. *H. Griffon, J. pharm. chim. vol. 27, p. 159.*

SKIN ABSORPTION

Variations in pH were studied colorimetrically in salves kept two hours at 37° in contact with phosphate buffer solution. No variations were showed by boric-zinc salve, lanolin paste or boric-petrolatum. Sweet almond, iodoform and potassium iodide salves tended to become more acid, while tar paste and a soap salve tended to become more alkaline. Lecithin-petrolatum was better absorbed than lanolin-petrolatum by rabbit and guinea-pig skin. Lecithin-petrolatum accelerated hair growth; this effect was attributed to the action of choline. *T. Naruse, Japan, J. Dermatol. Urol. vol. 41, p. 170.*

CHEMOTHERAPY OF GONORRHEA

Felke employed three different sulfanilamide preparations (diseptal A (dimethyl disulfanilamide), B (monomethyl disulfanilamide) and C (disulfanilamide) on 270 patients with gonorrhea. Having found diseptal C, also referred to as D B 32, to be the most effective of the three, he has employed this preparation exclusively since December 1937. He found that a daily dose of 1.5 Gm. (given in three doses of 0.5 Gm. each, at eight hour intervals) produced an average concentration of free D B 32 of from 1 to 1.5 mg. per hundred cubic centimeters of serum. When the concentration reached 2 mg. per hundred cubic centimeters, cyanosis usually resulted. A summary report of the sixty-five cases of gonorrhea in men indicates that when the medication with diseptal was begun from the eleventh day on, the treatment was generally more effective than when it was begun before this time. When chemotherapy was begun too early the majority of patients required two or more therapeutic courses, whereas when it was begun later, one course was adequate in the majority of cases. In the conclusion the author states that in men the chemotherapy should be combined with local treatment but that in women such treatment is superfluous, except that in new cases simple vaginal irrigations may be given. The development of an undesirable resistance of the organisms can be prevented by avoiding insufficient doses. *Arch. Derm. u. Syph. vol. 178, p. 45.*

SYNTHETIC CORTIN

Simpson found a synthetic product, desoxycorticosterone acetate, approximating in chemical formula to corticosterone, effective in two patients with Addison's disease. It has a therapeutic action in Addison's disease similar to that of extract of the suprarenal cortex (cortin). From the cases recorded it appears that 6 mg. of desoxycorticosterone acetate (1 cc. of oily solution) is equivalent to more than 5 but less than 20 cc. of cortin. The first patient, with severe suprarenal insufficiency, gave an equivocal response, but the second was undoubtedly benefited to a far greater degree than when receiving cortin. The injections were given intramuscularly and were not painful, although a transient localized stinging sensation sometimes resulted. *Lancet, vol. 2 (1938) p. 557.*

BISMUTH SALICYLATE

Riva Crugnola's treatment for infection of the urinary tract consists in intramuscular injections of 0.1 Gm. of bismuth salicylate every other day or 0.2 Gm. with intervals of three days between the injections up to a total number which varies from three to twenty injections. The treatment is indicated in cases of grave inflammation of the upper part of the urinary tract with fever, as well as in cases of long duration. The symptoms are ameliorated and the fever disappears after very few injections. The treatment is well tolerated and is not followed by accidents or complications except for a moderate stomatitis in some cases. The results are satisfactory regardless of the type of pathogenic bacteria in the given case. Satisfactory results are reported by the author in ten cases of pyelonephritis or pyonephrosis in which previous energetic medical treatment, the use of a permanent catheter and hypodermoclysis failed. *Pensiero Med., vol. 16, p. 361.*

ALDARSONE FOR NEUROSYPHILIS

Kamman gave fifty-three patients with neurosyphilis 1,495 injections of the formaldehyde sulfoxylate of 3-amino-4-hydroxyl-phenylarsonic acid (aldarsone). The drug is dissolved in 10 cc. of sterile distilled water and a beginning dose of 0.25 Gm. is given intravenously. It is then given at weekly intervals, the dose being raised to 0.5 Gm. the second week and to 1 Gm. the third week. Unless contraindicatory symptoms appear, twenty-four weekly injections are given, further treatment being determined by the clinical and serologic response. Forty of the fifty-three patients had received previous treatment with varying results. Clinically eleven of these patients had not improved under previous treatment but improved under aldarsone, eleven improved under previous treatment but did not show any further improvement under aldarsone, twelve improved under previous treatment and showed further improvement on aldarsone, five did not improve on previous treatment or on aldarsone, and four asymptomatic patients did not show clinical signs but there was definite serologic improvement. Serologically, thirteen patients did not improve on previous treatment but showed improvement on aldarsone, ten improved on previous treatment but did not improve further on aldarsone, ten improved under previous treatment and improved further on aldarsone, and five did not improve under either treatment. The serologic results in two patients are unknown. In four patients with tabes dorsalis the serologic and clinical improvement was accomplished by aldarsone alone. Toxic reactions definitely due to aldarsone were encountered in only three patients, and in only one patient was treatment discontinued because of toxic reactions. In no patient was it necessary to suspend treatment because of changes in the visual fields or in the optic disks. In three patients originally contracted fields enlarged under aldarsone, and in two others the contraction of the fields increased somewhat under aldarsone. *Am. J. Syph. vol. 22, p. 638.*

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READERS'

FACE POWDER: I am a subscriber of your magazine and read in the September 1937 number your "tested formulas" article about face powder. Having great interest in those formulas I take the liberty to ask you if you are in a position to give me some further details, as how to incorporate cetyl alcohol and lanolin into the powder. How to dissolve the fat, which solvent is to be used, in which proportions. Is it possible to make such a powder by hand, or is it necessary to have a machine (with a sprayer)? In this case could you perhaps give me the name of an American firm, who make such machines? I should be very thankful if you would be kind enough to help me. Stockholm.

Lanolin, cetyl alcohol and other fatty materials may easily be incorporated in the face powder by dissolving these products in alcohol and spraying the solution on to the powder while it is being mixed. This can easily be done by hand. Turn the powder over a few times after the addition, in order to facilitate evaporation of the alcohol. Perfume is preferably added later.

SMELLING SALTS: Will you please be kind enough to give us any information you can on the subject of smelling salts, together with suitable formulas. Any information concerning packaging etc., on this subject will also be greatly appreciated. If you have any publication or magazine that will give us the desired information you are at liberty to send us same and inclose your invoice covering any charges. Milwaukee.

Smelling salts most often consist of ammonium carbonate cubes, available from your regular supplier. In order to perfume these, perfume dissolved in alcohol may be sprayed on the cubes. The perfume should naturally be stable in the presence of ammonia. Some products consist of glass beads over which perfumed ammonia has been poured. The major requirement of the package is that it be air-tight and glass stoppered bottles are much favored.

HAIR LACQUER: We are interested in manufacturing one of the new hair lacquers now being used for finger waving and we are wondering in this connection if you could supply us with any information as to formula. We have found your magazine very helpful and interesting and we hope that you can help us out regarding the above product. Hamilton, Canada.

Hair lacquers similar to those now on the market are apparently made quite readily by dissolving powdered gum arabic in water. The exact proportion used will depend upon your own requirements. The gum is best dissolved in water by first mixing it with alcohol and then pouring the mixture, with stirring, into water. Filtration can be done after the acqueous mixture has stood for a day or so. To a certain slight extent, the amount of alcohol can be increased to speed drying time, but too much alcohol will cause the gum to precipitate.

STATISTICS: I am attempting to prepare a graph showing the total amount of cosmetic sales in the United States from 1910 to 1935. It has been rather difficult to obtain the necessary information, and I wondered if you could furnish me with some data without too much inconvenience to yourself. Springfield.

Each month we publish a chart of the wholesale value of toilet preparations sold for the previous twelve months, but the data from which this is derived is available only as far back as 1933. I think for your purpose, the data given in the "Census of Manufacturers" would be perfectly satisfactory. This gives cosmetic values every two years, back to 1919, and then at five year intervals.

WAVESET: We are particularly interested in making a finger wave lotion that will absolutely dry on the head in fifteen minutes. So far we have experimented with karaya, tragacanth, acacia, locust bean compositions with relative high contents of alcohol with indifferent success. Have heard that pectins are being used in some of the fast drying wave sets. Have you any information on pectins and wave sets? Have you any information on extremely fast drying wave sets or can you refer us to any one that would have such information? Portland.

Everybody who supplies the beauty parlor trade wants a quick drying finger wave lotion, but we do not know of anybody who really has a satisfactory one. Pectins are used in wavesets because they are more stable than other vegetable gums, but have no special advantage in promoting quick drying.

SAFE DYES: I am very anxious to know, authoritatively, whether there is any known material, either vegetable or synthetic, which will color the skin and hair without danger to the living cells? I do not, of course, refer to danger from allergic phenomena. I should also be interested in any information you may have as to whether oleates increase or decrease the toxicity of such local cosmetics. Plainfield.

To answer your question directly, we have no doubt that there are more than a few dyes that safely stain living tissues. As regards to specific dyes, I suggest that you get in touch directly with various dye manufacturers. However, for any specific purposes these dyes may be unsatisfactory. For example, the color may not be fast enough or natural enough for use in hair dyes or the color may not be oil soluble which prevents its use in lipsticks, etc. Although we have read of the use of oleic acid in hair dye preparations, we believe they have no effect whatever on the toxicity of the dye itself.

QUESTIONS

PRESERVATIVE: I wish to make large quantities of tragacanth solution on a commercial scale. What are the cheapest preservatives I can use. It is for external use only. Brooklyn.

The cheapest effective preservative for tragacanth solution is, of course, formaldehyde, used to the extent of about one-half to one per cent. This has a noticeable odor, however, and is often irritating to the skin. Methyl para-hydroxybenzoate is quite effective, although more expensive. It is used to the extent of one-tenth to one per cent.

FINGER WAVE CONCENTRATE: I will appreciate it if you kindly give me a good formula for a finger wave concentrate solution. I have seen bottles of about 8 ounces of solution out of which from 3 to 4 gallons of solution can be made depending on the density desired. Mexico City.

A good formula for a finger wave concentrate to serve as a basis for experiment, would consist of one ounce of dry, powdered gum karaya, mixed with four to eight ounces of either ethyl or isopropyl alcohol. If the gum powder is dry enough, it will not cake so readily in the bottle.

HAND LOTION: Having been a subscriber of your magazine for many years, we take the liberty of asking for a formula for a non-sticky hand lotion, for which we herewith enclose a self addressed envelope. New York City.

Apparently quince seed, and possibly some of the prepared gums now available, are best suited for making non-sticky hand lotions. A suitable formula for further experiment would consist of the following:

Stearic acid	2.0
Cetyl alcohol	0.5
Vegetable oil	0.5
Potassium hydroxide	0.1
Borax	0.1
Glycerin	6.0
Quince seed	1.0
Karaya	0.2
Alcohol	5.0
Perfume	0.5
Preservative	0.1
Water	84.0

Allow the quince seed and half the water (with the preservative) to soak overnight. Strain through muslin and add the karaya dispersed in the alcohol to the quince seed solution. Melt the stearic acid, cetyl alcohol and vegetable oil together and dissolve the alkalies and glycerin in the remaining water. Heat to the same temperature, mix and emulsify the two thoroughly, and add the gum solution. Add the perfume when the lotion has almost reached room temperature.

ARSENIC IN HAIR TONIC: What is the legal or medically approved percentage or fractional quantity of arsenic trioxide permitted in a dandruff tonic? If there is no established tolerance we would appreciate any information or reference you will be kind enough to impart to us bearing on this point. Des Moines.

We have absolutely no idea as to the permitted legal limits for arsenic compounds in external preparations. You had best write directly to the Food and Drug Administration in Washington, D. C., who can give you authoritative information. If the arsenic is used as an antiseptic and antiseptic claims are made, then these claims must be proven.

OIL SOLUBLE COLOR: As a subscriber to your magazine, we should like to ask for a typical formula for a while shoe polish. Will you also suggest a red or orange coloring material for mineral oil? Chicago.

Unfortunately, we can give you no formula for a white shoe polish, since chemical specialties of this type are entirely out of our line. The coloring matter that you require for use with mineral oil can be obtained from any of the regular suppliers to this trade.

MUSTARD GAS: We would appreciate any information as to possible sources of small quantities of mustard gas (in liquid form). We plan to execute a series of experiments relating to the sensitivity of skin to mustard oil (1/1000). We have as yet been unable to locate a source for this material. Baltimore.

It is highly inadvisable to use mustard gas in any form on the skin. In any event, if you wish to make experiments concerning skin sensitivity to mustard oil, it is better to use either mustard oil itself, or allyl isothiocyanate. Either of these can be obtained from essential oil suppliers.

SHAVING SOAP: We would like to incorporate some medium in a shaving lather soap which would have the effect of softening the hardwater used when applying the lather to the beard. Can you suggest any substitutions or additions to the standard formula in order to accomplish this? Sioux City.

Sodium carbonate is the most generally useful water softener and could be used in a shaving soap for this purpose, but probably would be far too irritating. Borax, although less effective, is still useful and could safely be used. Sodium hexametaphosphate has been used effectively to disperse hard water soaps as they are formed, but its use is protected. A new compound, sodium tetrapyrophosphate, should be as good and its use is unprotected by patents, but it should be checked for skin irritation.

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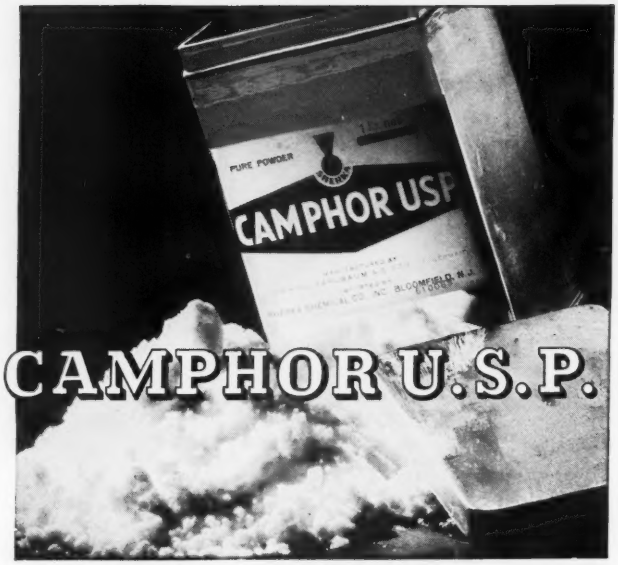

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Of The Drug and Cosmetic Industry, published monthly at Pittsfield, Mass., for October 1, 1938

State of New York, County of New York—ss

Before me, a notary public in and for the State and county aforesaid, personally appeared Thomas R. Farrell, who, having been duly sworn according to law, deposes and says that he is the Editor of The Drug and Cosmetic Industry, and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in section 443, Postal Laws and Regulations, printed on the reverse of this form, to wit:

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Sworn before me this 16th day of September, 1938, Ethel Amelia Clark, Notary Public.

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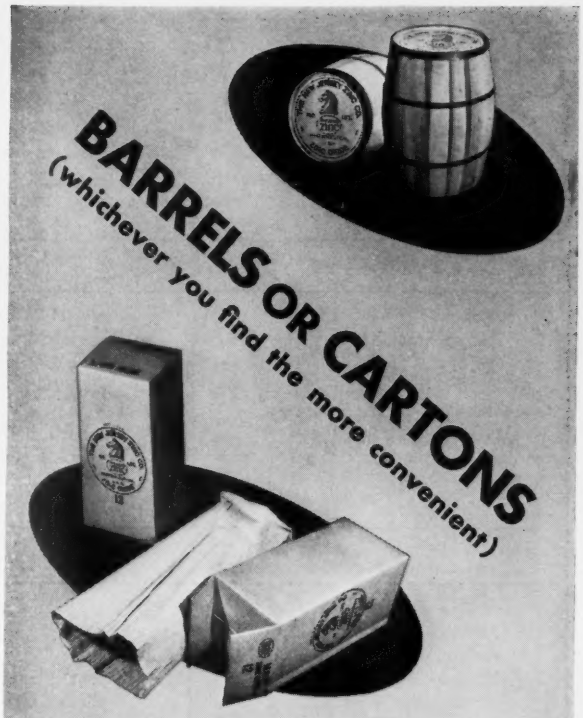

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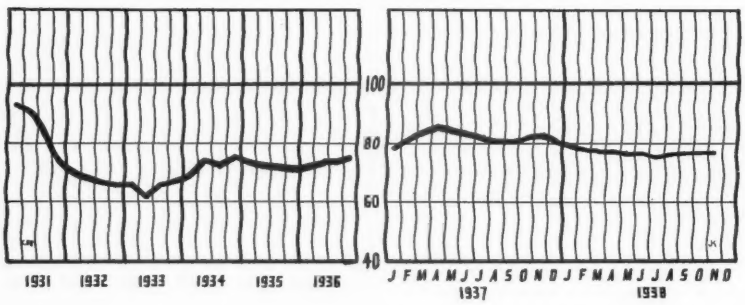
Aloes, Curacao 8c
Anise oil USP 10c
Bismuth subnitrate 5c
Camphor oil sassafrassy 6c
Cassia oil, Redist. 16c
Chamomile Roman 2c
Cinnamon oil 50c
Clove oil 2c
Golden seal root 20c
Iodine tincture 15c
Menthol 5c
Psyllium seed, black 4c
Rhubarb root HD 6c
Sage oil, Dalmatian 5c
Senega root 7c
Strychnine, alkaloid 10c
glycerophosphite 2c
hypophosphite 2c
phosphate 8c
sulfate crystals 7c
Valerian root ½c
Vanilla beans, Bourbon 35c
Mexican cuts 40c
Wormwood oil 25c

Down

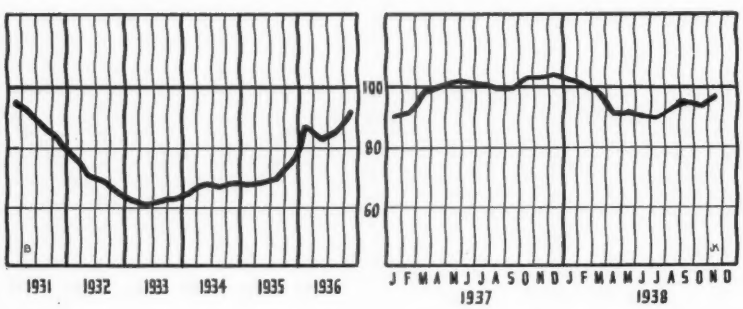
Acetylsalicylic acid 10c
Asafoetida 2c
Balsam Copaiba Para 1c
Balsam Copaiba USP 4c
Bay oil 10c
Bergamot oil 20c
Caraway oil 10c
Cardamom oil 50c
Carnauba wax No. 1 1c
Cedar leaf oil 10c
Citronella oil, Ceylon 3c
Java 1c
Cubebs 25c
Digitalis leaves 2c
Ephedrine, alkaloid 40c
Hydrochloride 30c
Sulfate 30c
Eugenol 20c
Geranium Bourbon 10c
Grapefruit oil 25c
Horehound herb 1c
Japan wax ½c
Lime oil, dist. 25c
expressed 50c
Lycopodium 10c
Methyl salicylate 5c
Montan wax ⅞c
Petit grain oil SA 10c
Podophylin 15c
Saffron Spanish $3.00
Salicylic acid 5c
Sassafras oil 15c
Wormseed oil 10c

25 Cosmetic Raw Materials—Unweighted Price Index. 1926 = 100.



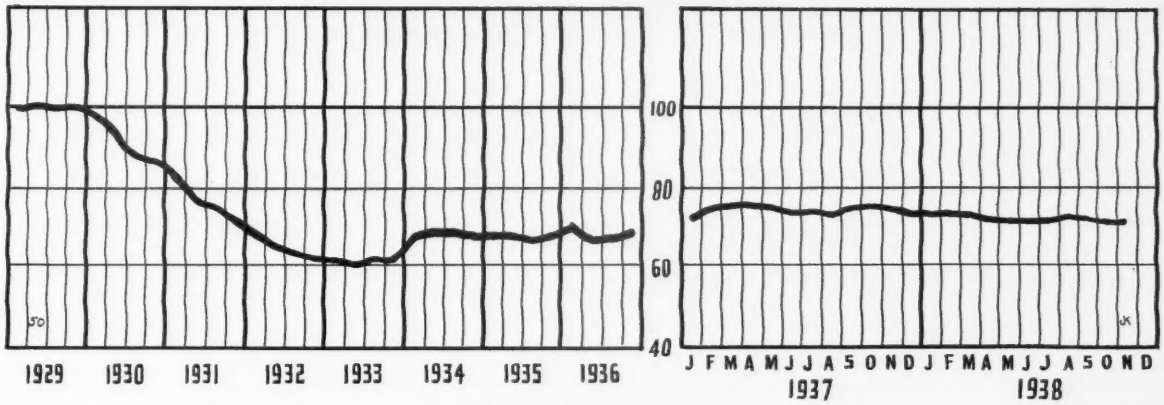
The cosmetic raw materials index declined from 76.9 to 76.6. Balsam copaiba declined from 29 to 28 cents; Japan wax declined from 10¾ to 10¼ cents; menthol rose from $3.10 to $3.15. The menthol market was without new feature during the past month although the situation created by the monopoly proved very interesting and was being watched closely by factors most concerned.

15 Botanicals—Weighted Price Index. 1926 = 100.



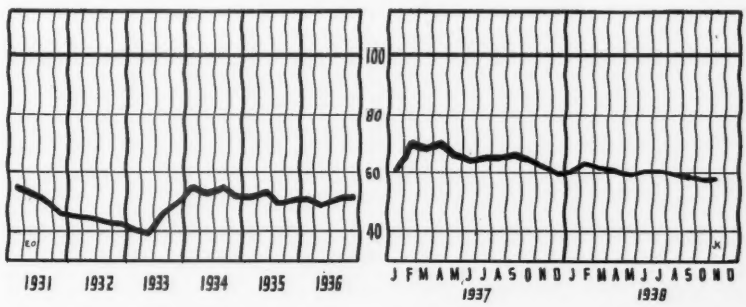
The botanicals index increased sharply, from 94.4 to 97.5 for November 1938. Aloes reached its highest price of 42 cents; digitalis declined from 40 to 38 cents; rhubarb root rose from 30 to 36 cents. The situation in aloes indicated a primary market condition which entirely favored an advancing price level. London has recently been a heavy buyer which further strengthened conditions at the source.

50 Raw Materials—Weighted Price Index. 1926 = 100.



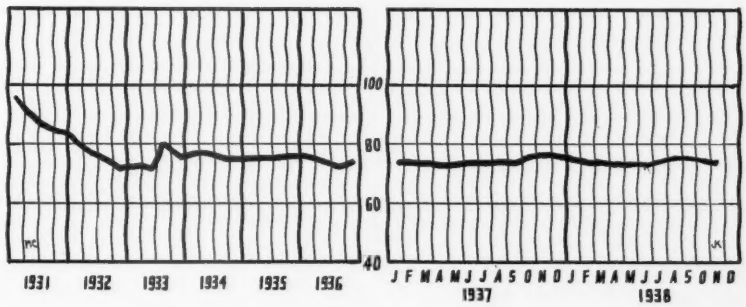
Changes in its components cancelled out, so that the 50 commodity price index for November 1938 was at the same value, 71.6, as in the preceding month. An interesting commentary on the raw material market as a whole was the fact that, although business was materially better in many respects during the past month, prices failed to strengthen and in some respects they were easier because of this fact. Competition by manufacturers to book a satisfactory volume of business while it was possible induced lower prices in some quarters but this situation will undoubtedly prove only temporary.

15 Essential Oils—Weighted Price Index. 1926 = 100.



Essential oils averaged slightly higher, the index increasing from 57.4 to 57.9. Anise oil rose from 75 to 85 cents; bergamot declined from $3.90 to $3.70; cassia rose from 84 cents to $1.00; citronella declined one cent to 37 cents; clove oil increased from 98 cents to $1.00; lime oil declined from $7.50 to $7.00. The downward trend in lime oil has been unbroken for many trading periods.

15 Medicinal Chemicals—Weighted Price Index. 1926 = 100.



The medicinal chemicals index declined from 74.9 to 74.0. Acetylsalicylic acid declined from 60 to 50 cents; menthol rose 5 cents to $3.15; mercury metal declined from $77.00 to $73.00 a flask. Mercury metal is now at very attractive levels and, although the price structure for mercurials has not as yet reflected this condition, it is generally felt there will be some corrective move shortly.

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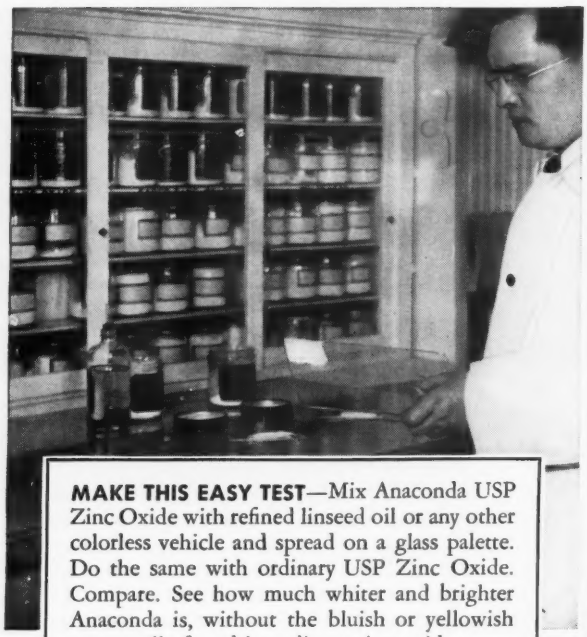

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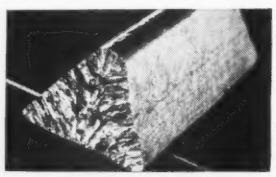

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From PRIMARY MARKETS — F C D — To CONSUMERS

EPHEDRINE

The situation in ephedrine developed along lines which tended to correct the condition which resulted in scarcity and very high prices last Winter. A further price reduction was made by leading manufacturers with the following schedule now prevailing in 100 oz. lots—alkaloid $2.25 per oz.; hydrochloride $1.60 per oz.; sulfate $1.60 per oz. Ephedrine prices have declined considerably from the high prices prevailing last Winter but they are still above a normal range. Because considerable uncertainty still exists in the raw material market the price declines in ephedrine can be said to be corrective rather than indicating weakness.

This is the season of the year in which sales of ephedrine normally take an upswing. Business has not developed in volume as yet and it looks as though this item would get a late start. Last winter was an open one resulting in carryover stocks of finished goods both in the hands of manufacturers and in retail outlets.

As far as the price trend on ephderine for the balance of this Winter is concerned some uncertainty still exists regarding regular shipments of ephedria vulgaris from the Far East but total shipments so far this year from all sources have been sufficiently large as to make it improbable that a shortage of the alkaloid and salts will develop in the near future. Total imports of ephedra vulgaris by the United States as of August 31, 1938, amounted to 1,139,043 pounds. Of this total 446,350 pounds were received from India. It is important to note, however, that during July and August, all receipts of ephedra vulgaris originated in the Far East and that during August 186,850 pounds arrived via Japan while 98,350 pounds came from China to make the total receipts for August of 285,200 pounds.

The most interesting fact regarding these August imports is the large quantity coming by way of Japan which would indicate that the Japanese are rapidly gaining control of this raw material. The effect this development will have on prices is uncertain, but the trend of Chinese raw materials which have come under the domination of the Japanese has been upward—anise oil, cassia oil and rhubarb root being examples in point. The Japanese will certainly endeavor to obtain all available supplies of ephedra in China so that shipments may continue regularly as they badly need the export business. On the other hand, they have fixed prices on many of their own raw materials and will, if possible, extend this policy to China.

There seems to be ample supplies of ephedra vulgaris available in India but the alkaloidal content is lower than that of the Chinese material which materially increases the cost of ephedrine production from Indian raw material.

During 1937 the United States imported 788,000 pounds of ephedra vulgaris, which compared with 1,000,000 pounds during the preceding year, and 1,948,000 in 1935, the greatest amount ever imported into the United States during any 12 month period. Imports up to August 31, 1938 amounted to 1,139,043 pounds.

UNITED STATES IMPORTS OF EPHEDRA VULGARIS (MA HUANG)

Country	First Half 1938 Pounds	First Half 1938 Value
China	213,928	15,602
Japan	161,518	10,808
India	446,350	29,197
Spain	9,485	544
Total	831,281	56,151

Country	July 1938 Pounds	July 1938 Value	August 1938 Pounds	August 1938 Value
China	22,562	1,624	98,350	5,937
Japan	.....	.....	186,850	13,946
India	.....	.....	.....	.....
Spain	.....	.....	.....	.....
Total	22,562	1,624	285,200	19.883

VANILLA BEANS

The entire vanilla bean market showed predominant strength, the current advances, it was said, being the forerunner of still higher prices. In France the supply of Bourbon vanilla is the smallest in twenty to twenty-five years. This situation will not be materially improved by November arrivals of new crop Madagascars as the new crop is smaller than last year.

Surplus stocks in import circles here are so small that importers are limiting contracts to 90 day periods. Bids are being offered by manufacturing consumers who would like to be covered for six months because of the advancing market but these contracts are being discouraged as uncertainty regarding available supply and price trend is too great to risk such long term commitments. This is the situation insofar as the Bourbon beans are concerned and because of the small new crop it will be at least another twelve months before definite relief from the shortage can be expected.

During the trading period under review Bourbon beans advanced an additional 35c per pound now being offered at the minimum price of $4.25 per pound with the range up to $4.75.

To make matters worse for consumers of vanilla, the Mexican varieties are now equally as strong as the Bourbons. The United States supply of cuts is reported to be the smallest in many years. This has been a big year for cuts because for a while it was possible to buy Mexican cuts at prices lower than Bourbon beans. Prices for cuts advanced during the past month by 40c per pound to be quoted at a range of from $4.25 to $4.50.

Whole Mexican beans now available must supply world requirements until June-July of next year and the supply is none too large. During the past ten months Germany has reentered the market as a large buyer of whole Mexican vanilla beans—the reopening of this long dormant market adding considerable strength to the Mexican situation. Prices of whole Mexican beans now range from $4.50 to $5.00 a pound.

The recently instituted export tax of 12 per cent. on Mexican products has not only advanced prices for shipment, but has caused so much uncertainty regarding future shipment prices as to make the advance sale of beans in this market a highly speculative proposition. An interesting aspect of this export tax is that it is figured on the gross weight of a case. The Mexican Government, it is said, distrusts net weight figures even when sworn to in an affidavit, so that the tax must be paid on the basis of a case of 100 kilos gross weight. The tax on such a case would amount to approximately $100 which, figured at the shipment price of beans today is around 50c per pound.

It is reported the export tax may be increased to as high as 30 or 40 per cent. Mexican green beans are collected in October and November. Cuts arrive here first, sometimes as early as February, depending on weather conditions. It is said that during the drying interval the export tax may be raised and it is this possibility that is causing uncertainty here. Importers must protect themselves against such an eventuality. The whole situation indicates a firm and high market for all grades of vanilla for at least another year.

SALICYLATES

Leading manufacturers of salicylates announce rather sharp reductions in these items with the following schedules now prevailing: Methyl salicylate USP XI in 500 lb. drums 35c per lb., 25 lb. cans 38c per lb.; Acid salicylic USP XI in 100 lb. bbls. 35c per lb., 25 lb. drums 38c per lb.; Acid acetylsalicylic USP XI in 100 lb. kegs 50c per lb., 25 lb. drums 51c per lb.

Price reductions in these items were instituted because of the improvement in demand for them. This may sound rather ambiguous but with volume business in the offing leading manufacturers of salicylates wanted to assure themselves of a satisfactory booking and so offered the lower prices as an inducement. It is, therefore, logical to assume that after this competitive situation clears up prices will again strengthen.

CHAMOMILE FLOWERS

A short crop of chamomile flowers is reported for the current season and prices as a result are expected to firm up considerably between now and the winter months. Hungary is the principal source of supply for chamomile flowers, where exports are under government control. Rumania and Jugoslavia are also sources of supply but prices from the latter countries are higher than from Hungary.

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CAMPHOR OIL

The scarcity of the camphor oils is the cause of some concern in this market. Some importers are already without stocks and reports from the primary market indicate that there is no material available for export. Camphor oil sassafrassy was advanced sharply on the spot market with the price range now at from 25c to 28c per pound. This represents an increase during the past month of 6c per pound.

Japan is the only commercial source of supply for the camphor oils. In answer to inquiries from this market regarding the situation it was learned that domestic demand from the mining industry both for brown and white camphor oil sharply increased during the past year being in heavy demand for flotation purposes. There is no export surplus at present and as far as the future is concerned there is not likely to be any unless the mining industry goes into a slump.

The camphor oils as such are not very important as they are used only in a small way in the manufacture of drugs and cosmetics. They are, however, vitally important to the aromatic industry as they contain a high percentage of safrol. Safrol is used in certain perfumes and particularly in soaps but it is also the starting point in the synthesis of heliotropin. This latter product is indispensable as a base for heliotrope perfumes.

The impossibility of obtaining the raw material for the manufacture of safrol and heliotropin is not, however, likely to cause a shortage of these items. Japan can supply them in quantity and has been doing so for some time now. Production of safrol and heliotropin in this country, however, will be at an end with the last of the available supply of raw material, making this market dependent on a foreign source. It is felt in some quarters that this has been the aim of the Japanese all along and that it is their intention in future to be the market for these two products, their purpose being deliberately to withhold raw material and in this way to freeze out competition in the aromatic derivatives.

There is no indication that the Japanese have as yet taken undue advantage of their position relative to safrol and heliotropin but the situation is such that it will bear close watching by manufacturing consumers.

BUCHU

Large shipments of buchu to this market are said to have depleted stocks at the source to the extent that some factors look to a much firmer market between now and the arrival of new crop in January-February. During the current trading period, however, no price change was noted from the prevailing market range of from 36c to 43c per pound.

ALOES

A sharply higher price for Curacao aloes featured the market for this item during the current trading period. The upward trend had been predicted for some time now and, although it did not come as a surprise, a single advance of 7c per pound was considered sharp. The quoted range is currently from 42c to 48c per pound and the new level represents the highest price at which this grade of aloes has sold for many years.

There are several reasons for the current strength in Curacao aloes. First, the subnormal supply in the primary market is indicative of a rising price trend. The 1938 yield of aloes in the Netherland West Indies is expected to amount to around 3500 cases or 437,500 pounds, which is approximately the same as in 1937. Production in the 3 months ended with September 30 amounted to 200,000 pounds—125,000 pounds being produced on the Island of Aruba and the rest on Bonaire. The rest of the crop is expected to amount to from 600 to 800 cases. Exports during the September quarter aggregated 250,000 pounds. Stocks on hand September 30 aggregated 137,500 pounds.

Secondly, London has recently been a heavy buyer of primary market stocks. They had previously withheld from the market hoping for a decline in prices but stocks there dwindled necessitating heavy replacement buying which further aggrevated primary market conditions. A final stimulating influence on prices for Curacao aloes is the fact that Cape aloes are no longer official in the U. S. Pharmacopoeia, only the Curacao and Socotrine grades being listed in the XI Revision.

The higher market for aloes, and the possibility of a consistently strong position for this item for some time yet, has already been reflected in the position of aloin. On the current market the advance amounted to 30c per pound placing the price range at from $2.50 to $2.85 per pound.

LIME OIL

The downward trend in lime oil continued unabated during the past month. Distilled oil is now quoted at from $4.00 to $4.75 per pound while the expressed is selling at a range of from $7.00 to $7.50. These are the lowest levels at which lime oil has sold for a long time. The stiff competition offered by Mexican producers of lime oil continues to be the factor responsible for the long line of sharp price reductions.

Imports of lime oil into the United States during the first half of the current year aggregated 34,270 pounds valued at $161,437, according to preliminary figures, compared with 74,156 pounds valued at $402,187 in the first half of 1937. Mexico and the West Indies are the leading import sources.

STRYCHNINE

All prices for strychnine were advanced during the past month, the rise in quotations on alkaloid and sulfate being the second within a short period of time. Strychnine alkaloid NF VI powder in 100 oz. cans is now quoted at 40c per oz. and in 25 oz. cans at 43c per oz. Strychnine alkaloid NF VI in crystals is 10c per oz. higher than the above quotations. Strychnine sulfate USP XI powder in 100 oz. cans is quoted at 32c per oz. and in 25 oz. cans the price is 35c per oz. This material in crystal form is 10c per oz. higher than above quoted. No contracts are being taken at this writing.

ERGOT

Some factors look for a decline in ergot on the assumption that shipment prices are out of line with the supply position. It is stated that ample supplies are available in Portugal, and that these stocks consist of considerable Spanish material. It is reported that some dealers here who are entirely without stocks of ergot at present are not interested in placing orders now, feeling quite sure that more advantageous terms can be obtained later on. Spot ergot is selling at from $1.60 to $1.65 per pound.

MENTHOL

There was no change during the past month in the menthol situation. Spot prices for natural menthol ranged from $3.15 to $3.25 per pound. Factors here are closely watching the Japanese market for any possible change in the attitude of the monopoly. As yet there are no indications that the Hokuren will reverse its policy of maintaining a firm shipment market. The position of this raw material is quite interesting and developments will be followed closely.

OLIVE OIL

According to the American Consul at Palermo, the Sicilian 1938 olive crop was severely damaged by rains in the late spring and early summer, and it is believed that the yield will not reach more than half the average for the past ten years. Reports from continental Italy are that the crop there has also suffered considerably, but not to the same extent as in Sicily. One estimate is that the quantity of oil produced in Italy during the 1938-39 season will be about 1,300,000-1,400,000 hectolitres (26.4 gallons each) or approximately 67 per cent. of the average annual production of 2,079,600 hectolitres for the five-year period 1932-33/1936-37. Other estimates range between 1,100,000 and 1,600,000 hectolitres. The 1937 olive crop was the largest since 1939. More than 99 per cent. of this crop was used for the production of oil, the latter totaling 2,979,800 hectolitres, compared with 1,691,000 in 1936-37 and 2,337,000 in 1935-36.

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